SOUTH MARKETING ISSUE
Pages 9-16

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

Published by The Miller Publishing Co., Minneapolis, Minn.

Vol. 4 | Accepted as Controlled Circulation Publication at Minneapolis, Minn. | NOVEMBER 4, 1957 | Subscription Rates: $5 for 1 year, $9 for 2 years | No. 44

New Systemic Insecticide for Cattle Grubs

USDA Announces Fall Distribution For Limited Area

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — An announcement last week from the U.S. Department of Agriculture discloses that the pesticide industry is making available new products which may provide a $100 million dividend annually to the U.S. cattle industry.

The availability of a new chemical compound, generally designated as ET-57 which will be marketed by various companies, has been announced.

It has been developed jointly by industry, federal and state entomologists, chemists and veterinarians as a systemic insecticide for the control of cattle grubs which effect damage primarily on damaged meat and cattle hides.

This basic material—known chemically as O,O-Dimethyl-O-2-4-5-Trichloro-Phenyl-Phosphorothioate — is

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Three Regional Appointments Made By NPFI

WASHINGTON — Three appointments made in connection with an expanded program of the National Plant Food Institute were announced Nov. 1 by Dr. Russell Coleman, executive vice president of the institute.

Dr. R. L. Beacher, professor, department of agronomy, University of Arkansas, was named southwestern regional director, with headquarters at Fayetteville, Ark., effective Dec. 15. Dr. Coleman said the southwestern region would include Arkansas, Louisiana, Oklahoma, Texas and perhaps New Mexico.

Dr. Samuel L. Tisdale, director, soil testing division, North Carolina department of agriculture, was named southeastern regional director with offices at Atlanta, effective Dec. 15. States in this region include Alabama, Florida, Georgia, Mississippi, North and South Carolina and Tennessee.

Dr. Richard B. Bahme, Berkeley, Cal., was named a representative for Arizona and California with offices at San Francisco. Dr. Bahme, at the time of his appointment, was manager of the technical development department of the Pacific Guano Co.

Dr. Coleman said that the appointments were made under an expanded program of the institute to further promote fertilizers in the field of research and education.

Fertilizer Safety Men Consider Means To Minimize Hazards

By LAWRENCE A. LONG
Editor of Croplife

on safety comes from the top, the road becomes easier, he reminded.

CHICAGO — A two-day session which included talks on many angles of safety in the fertilizer manufacturing field was held by the fertilizer section of the National Safety Council at the La Salle Hotel here Oct. 21-22. Papers by chemical engineers, insurance executives, technicians and other experts in the fertilizer manufacturing industry were presented. The group elected new officers and three new board members as part of the business program of the meeting.

Frank A. Gerard, Olin Mathieson Chemical Corp., Baltimore, told the group that top management of the firm must be a part of the safety program in order for it to be successful. "Without the help of the 'front office,' you cannot have an effective accident prevention program," he declared.

Mr. Gerard said that sometimes it is convenient for safety men to make excuses for lack of progress by saying that management fails to cooperate. "Actually," he said, "if you don't have the cooperation of management, you are not doing your complete job . . . Safety men in some way must get the cooperation of the man in the front office." He added that the company's management is always willing to hear how the plant might be made safer and more efficient. Once a bulletin announcing a new emphasis

Beyond "cooperation" of top management, is a more accurate term, that of "participation," Mr. Gerard said. He related incidents in his experience where the top men in a firm took hold of the safety promotion program and it became outstanding in its accomplishments. The program thus established brought about many favorable changes, he said, and the safety record has remained as an important consideration with the firm.

A discourse on "How We Can Profit from Thorough Accident Investigations" was presented by James E. Kavanaugh, Travelers Insurance Co., Minneapolis, Minn. He made the point that it is only through meticulous study of single accidents and all the factors that entered into their occurrence, that accurate conclusions may be reached. Studying accidents as a group, on the other hand, may not lead to the conclusions needed for subsequent prevention.

"Perhaps we might make the point here that anything less than knowledge of all of the facts surrounding each of the accidents in the group will certainly lead to erroneous conclusions, the adoption of unjustified activities in the safety program, and consequently, we end up with disappointing results," he said. "A weakness in the accident investigation procedure is not only a weakness in this one phase of the program, but also causes the lack of sound information and false data that lead to false conclusions upon which we base the activities set up in our entire accident prevention program. No wonder that so many of our plans seem to fall through!"

Mr. Kavanaugh recalled having reviewed a plant accident file for the purpose of establishing the points of problem, and trying to recommend a program for improvement of the situation. "If the conclusions set down by the supervisors were accepted as thoughtful ones, based on analysis of the occurrence

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WASHINGTON WIRE

Changes in Farm Community Create Marketing Problems

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON—Recent revelations concerning the farming communities pose some problems in merchandising fertilizer and pesticidal chemical products.

Recently a farm economic leader here told Croplife that in many of the business communities in Great Plains states and Corn Belt farming areas, the local merchants, suppliers and professional people literally were "waiting for the government checks" to liquidate accounts of the farmers whom they served. He commented that this was an unhealthy sign.

However, this "waiting for the government check" attitude is only part of the sales outlook for the farm chemical industry. Only this past week two branches of the federal government commented on the changing pattern of the big farming complex of the nation. They disclosed that the farming communities are shrinking at an increased pace and that a consequential number of farms remaining are those of low earning power.

The first of these reports was that issued by the Census Bureau, which showed that during the past year the number of persons on farms had fallen by approximately two million or to a level of about 12% of the national population. This renewed decline in the farm community now represents a loss of farm population since 1950 of approximately 4.7 million.

And this decline also is reflected in the proportion of farm-residents to the growing national population.

The increasing value of farm lands is appropriate evidence of the attitude of the small marginal farmer to his small holdings. The small farm is being gobbled up into larger units—an unusual stimulus to farm lands values.

In reporting on this renewed trend in the farm population the Census

(Continued on page 8)

New Company Formed in South to Buy, Sell, Distribute Chemicals for Agricultural Use

ALBANY, GA.—Dixie Chemical Corp. has been formed here with capital stock of $100,000. Officers of the firm said that its function will be to purchase, sell and distribute chemicals for agriculture and to collect and disseminate technical data to other businesses.

Officers of the firm include O. H. Blanton, Walker Fertilizer Co., Albany, president; R. L. Tiller, Southern Agricultural Chemical, Kingstree, S.C., vice president, and J. W. Patrick, Orange State Chemical, Orlando, Fla., secretary-treasurer.

Others who will be actively engaged in the management of the firm are Myron Maxwell, Maxwell Insecticide Co., Cary, N.C.; A. B. Collins, Orange State Chemical, Miami; C. W. Walker, Walker Fertilizer Co., Albany, and W. H. Tiller, Southern Agricultural Chemical, Kingstree, S.C.

Monsanto Begins Construction of New Facilities for Agri. Chemical Research

ST. LOUIS, MO.—Construction has begun here on new, expanded laboratory and greenhouse facilities for agricultural chemicals research by Monsanto Chemical Company's organic chemicals division.

The new research unit is being constructed in suburban St. Louis adjacent to the corporate general offices occupied by Monsanto last week. In addition to the most modern equipment for research on agricultural chemicals, it will provide accommodations for a future 75% increase in personnel assigned to these programs.

Scheduled for occupancy in mid-1958, the new facilities will include a modern two-story building housing offices, conference rooms, laboratories and library. Adjoining it will be eight greenhouses and one-story material receiving and storing accommodations. The structure will occupy 15,000 sq. ft. exclusive of greenhouses.

The new laboratories and greenhouses will be devoted exclusively to research-scale experimentation. They will be the second major Monsanto research function to be established permanently at the company's St. Louis County location as part of a long-range plan for development of its 252-acre tract there. New inorganic chemicals division research laboratories opened there earlier this year.

Work has been expedited on the new research unit as replacement for present accommodations near the junction of Lindbergh and Olive Street Road. The present facility is being condemned by the state highway commission to make way for a new modern overpass and traffic interchange at the intersection.

Architect for the project is Holabird & Root & Burgee of Chicago. Contractor is the William H. and Nelson Cunliff Company of St. Louis. Supervision of the construction is being handled by the engineering department of the company's research and engineering division.

Totman Takes New Post At Firm's Home Office

BALTIMORE, MD.—James C. Totman has been transferred from Summers Fertilizer Company's Bangor, Maine office to the firm's home office, Totman Building, Baltimore, Md., where he will assume his new duties as assistant to the president.

For the past ten years, he has been actively associated with both Summers as assistant treasurer and manager of the Bangor office and with Northern Chemical Industries, a Summers' affiliate, as vice president. During this period, he was also active in local and state politics. For three years, he was a member and chairman of the city council of Bangor and, for eight years, a member of the state legislature. At the last session, he served as Republican floor leader.

Diamond Reports Sales Up But Earnings Decline

CLEVELAND, OHIO—Sales of Diamond Alkali Co., Cleveland, for the nine months ended Sept. 30 were 2% ahead of the same 1956 period but earnings declined 22%, it has been reported by Raymond F. Evans, chairman and president.

Net sales of Diamond chemicals for the current nine months' period ended Sept. 30 totaled $97,634,209 compared with $95,459,557 a year ago, he said. Net income for the first three quarters of 1957 amounted to $6,165,791 against $7,865,387 for the corresponding period in 1956. This is equivalent to $2.28 per common share on 2,703,753 shares outstanding compared to $2.91 per share in 1956 on the same number of shares.

Commenting on results for the nine months, Diamond's chief executive officer said that the company's higher sales—lower earnings pattern reflects a "squeezing" trend that has continued throughout 1957. "This is due chiefly to the continuing upward spiral of the cost of transportation, raw materials and labor, our accelerated research program, and heavy changes resulting from retirement of old and obsolete facilities," he explained.

Cereal Disease Studied

DAVIS, CAL.—Yellow-dwarf virus, with its ability to cut yields as much as 70 to 80%, must be classed as a major cereals crops disease, according to Coit A. Suneson, USDA agronomist, speaking at the University of California at Davis.

Pointing out the needs for chemical control of these pests, Mr. Suneson and R. T. Ramage, geneticist, reported on tests conducted over a six-year period, and estimated the losses resulting from attacks by the aphid carriers. The plants used in the experiment were artificially infected to aid in the study.

DIVIDEND DECLARED

NEW YORK—The board of directors of American Potash & Chemical Corp. on Oct. 24 declared a quarterly dividend of 25¢ a share on the Class A and Common stocks. The directors also declared the quarterly dividend of $1.00 a share on the $4.00 cumulative preferred stock, Series A. The dividends are payable Dec. 13 to shareholders of record Nov. 29.

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Shell Pesticide Gets USDA Label Approval

NEW YORK—Tolerances for Shell Chemical's insecticide Phosdrin have been established by the Food & Drug Administration, and labels for the product have been accepted by the United States Department of Agriculture, the firm has announced.

Fred W. Hatch, manager of Shell's agricultural chemical sales division, said the company can now market Phosdrin insecticide for commercial use on a wide variety of fruits, vegetables, and field crops—in most instances giving the grower protection against insects right up to the day before harvest.

Mr. Hatch said that manufacturing facilities are now on stream at Denver, Colo., and that an adequate supply of the insecticide is assured.

The material is an organic phosphate which decomposes rapidly after application. It is highly toxic to man, the company states, and users are being advised of its hazards, with information on safety precautions in handling and steps to take in case of mishap.

Mr. Hatch said that Phosdrin had been introduced under an experimental label in 1956 to fill the need for an insecticide that could be used to protect crops a few days before harvest. The United States Department of Agriculture had accepted a previous label on the product to fill a need for a pesticide to control aphids, cabbage loopers, and imported cabbage worms attacking broccoli, cabbage, and lettuce. Phosdrin insecticide has also been used to protect apples from the red-banded leaf roller and to protect sorghum from aphids and corn earworms.

Under the accepted label, the following crops can now be protected by the insecticide:

Apples, peaches, pears, plums, strawberries, alfalfa, clover, beans, peas, potatoes, cucumbers, tomatoes, broccoli and cabbage. All of these vegetables may be treated for various insects up to one day before harvest. The insecticide may be applied on lettuce two days before harvest, and on other vegetables, three days before harvest. In the latter category are turnips, turnip tops, mustard greens, Brussels sprouts, cauliflower, collards and kale.

Phosdrin can be used up to four days before harvest on spinach, the makers state. The material will be sold to formulators who will market it under their own brand names.

Quarantine Facility Opened at New York

NEW YORK—A new plant quarantine inspection station has been opened at the New York International Airport at Idlewild for the convenience of business firms and persons authorized to import plants and plant propagating materials, the U.S. Department of Agriculture has announced.

The new station will make it possible for plant imports to be cleared in as little as three hours after arrival from abroad, according to officials of the USDA's Plant Quarantine Division. Previously, incoming plant shipments had to be trucked in bond from Idlewild to the Hoboken (N.J.) plant quarantine inspection house for processing, a procedure which often consumed three days.

Plant importations are inspected both for insects, plant diseases, nematodes and other pests. Material carrying pests is treated by fumigation, hot water or by a variety of chemical applications. The new station, located at the airport's newly-constructed Air Cargo Center, provides facilities for all types of inspection and treatment. It will handle plant propagating material arriving by air cargo and passengers' baggage.

George F. Dietz

SAFETY CHAIRMAN—Elected chairman of the fertilizer section of the National Safety Council is George F. Dietz, safety director of Fertilizer Manufacturing Cooperative, Inc., Baltimore, Md. The election was held at the Section's annual meeting in Chicago Oct. 21-22. Mr. Dietz has been in the fertilizer industry for nearly 25 years, and associated with safety activities for nearly 20 years. He has been prominent in the fertilizer section of the NSC for some years and for the past three years has been on its executive committee. Last year, he was vice chairman of the national group.

Stauffer Reports Earnings, Sales for Third Quarter

NEW YORK—Net earnings of Stauffer Chemical Co. for the third quarter of 1957 were $3,326,000 or $.96 per share, compared with $3,323,000 or $.96 per share in the third quarter of 1956, the company reports. Net sales for the quarter were $42,503,000, a decrease of about 1% from sales of $43,082,000 in the same period last year.

Sales and earnings for the nine months ending Sept. 30, 1957, $121,840,000 and $10,480,000, respectively, compared with sales of $123,552,000 and earnings of $10,667,000 for the first nine months of 1956.

According to Hans Stauffer, president, demand for most of the company's industrial chemicals remained at satisfactory levels during the quarter, with the particular exception of products sold to the titanium industry. Price increases have been effected in most product lines. Sales of agricultural chemicals have continued below 1956 levels, he said.

Earnings for the year to date have been adversely affected by increased expenditures for research and development, and by increased charges for depreciation, Mr. Stauffer said. The increases amount to $855,000 and $858,000, respectively, over the corresponding periods in 1956.

Iowa Reports Fertilizer Sales for Half of Year

DES MOINES—A total of 377,290 tons of fertilizer, both mixed and separate materials, was reported sold in Iowa during the first half of 1957, the state department of agriculture has announced. By far the most popular mixed fertilizer was 5-20-20, of which 85,019 tons were sold. The grade of 5-20-10 was also a good seller, with 38,797 tons being reported.

Of the separate materials, anhydrous ammonia sales were tops with a total sale of 12,459 tons reported. Ammonium nitrate was used in the amount of 3,185 tons.

The report was made by Clyde Spry, secretary of agriculture for the State of Iowa.

NPFI Cooperates in Preparing Teaching Aids for Instructors

SAN LUIS OBISPO, CAL. — California State Polytechnic College and the National Plant Food Institute of Washington, D.C., have announced a jointly supported project for the preparation of teaching aids for effective instruction in the area of plant foods, fertilizer usage and crop production.

"Eighty-five per cent of California's farm income comes from crop production," Dr. Julian A. McPhee, president of California State Polytechnic College, said. "We are anxious to provide vocational agriculture teachers with the most effective means of instruction, since fertilizer usage is an important factor in an efficient crop production. We believe particular attention should be given to teaching high school students how to use fertilizer properly."

A $1,500 grant by the National Plant Food Institute will provide a fellowship for an advanced student who will be assigned to this project and will contribute toward the production costs of the teaching aids to be developed.

IMC Stockholders Vote To Increase Shares

NEW YORK—Stockholders of International Minerals and Chemical Corp. have voted an increase in the number of common shares from 3 million to 5 million.

Louis Ware, IMC president, told the 48th annual meeting of shareholders that the increased stock authorization was not requested for any immediate need but to make such an issue possible in event of future contingencies "such as the acquisition of desirable properties or processes."

Mr. Ware, who with several top officers outlined the company's present position and future plans, said that sales and earnings for the current fiscal year will be above 1956-57, when sales exceeded $100 million for the first time.

Arthur R. Cahill, IMC financial vice president, cited the 31% increase in share earnings last year as evidence that the company "is beginning to realize the potential earnings from its extensive expansion program over the past four or five years."

He said IMC plans expenditures of around $9 million during the current fiscal year, about $3½ million of that on a new potash mine now under construction at Esterhazy, Canada. The remainder would be spent on improvements at other IMC plants and mines.

Stockholders reelected all members of the board of directors.

Disappearance of Good California Farmland Cited

FRESNO, CAL.—The demand for artificially developed fertile soil is on the increase in California, reports a University of California scientist.

Farmers in the state are being driven off the more fertile land into the poorer valley basin lands and terraces partially as a result of population growth, and this means they are being required to do a better job of farming to maintain or increase current production on poorer and poorer land.

Speaking at the banquet meeting of the 10th annual California Industry Conference at Fresno, Daniel G. Aldrich said that nearly 16% of the total cultivable land in the state has been diverted to non-agricultural use.

The conversion of this highly productive land to such uses as residences, factories, etc., is a stimulating challenge to the farmer and the soil scientist, Dr. Aldrich said.

The researcher, chairman of the department of soils and plant nutrition on the Davis and Berkeley campuses, outlined the steps being taken by university soil and water scientists to make better use of the poorer land.

More than 30 million acres, slightly less than one third of the state's total area, have been surveyed in detail, he said, and ultimately the remaining land will be studied to understand its needs. It will take about 15 years to complete, he said, at the rate of about 80,000 acres per year.

A statewide university committee on soil compaction has been established. Its aim is to coordinate the research work of various departments on the principal campuses of the university and to stimulate development of new lines of work that may ultimately provide means to prevent or correct structural deterioration.

The more than 2,800,000 acres of saline-alkali soils are a vast resource whose productivity can be increased by the application of knowledge pioneered in California. A project is at present going forward in the department of soils and plant nutrition to record on appropriate maps and describe all of the saline-alkali soils of the state. When completed a "master strategy can be developed for reclaiming these problem soils and an account kept of the failures or successes that characterize the constant battles to be waged against this foe of irrigated agriculture," Dr. Aldrich said.

POOR CORN YEAR

KNOXVILLE—Drouth and disease combined to hurt Tennessee's 1957 corn crop over most of the state, according to Dr. L. M. Josephson, U.S. Department of Agriculture corn breeder stationed at the University of Tennessee's agricultural campus. "Low rainfall during the critical flowering period provided a severe test of those hybrids capable of producing ears and setting seed under unfavorable conditions," Dr. Josephson said. "Those conditions were so severe that few hybrids grew more than one ear per plant."

Michigan Chemical Corp. Reports Sales Increase

SAINT LOUIS, MICH. — For the nine months ended Sept. 30, 1957, Michigan Chemical Corp. reports a net profit after taxes of 83¢ a share of common stock as compared to 51¢ a share for the comparable period of 1956, an increase of 63%. The earnings were $572,309 in 1957 against $349,965 in the 1956 nine month period.

Net sales for the 1957 nine months were $6,981,735 and $5,271,648 for the same period of 1956, a gain of 32%, it says.

For the third quarter of 1957, net earnings were $225,014 or 33¢ a share, against $137,842 or 20¢ a share for the third quarter of 1956. Net sales for the third quarter of 1957 were $2,696,553 as compared with net sales of $1,682,651 in the similar period of 1956.

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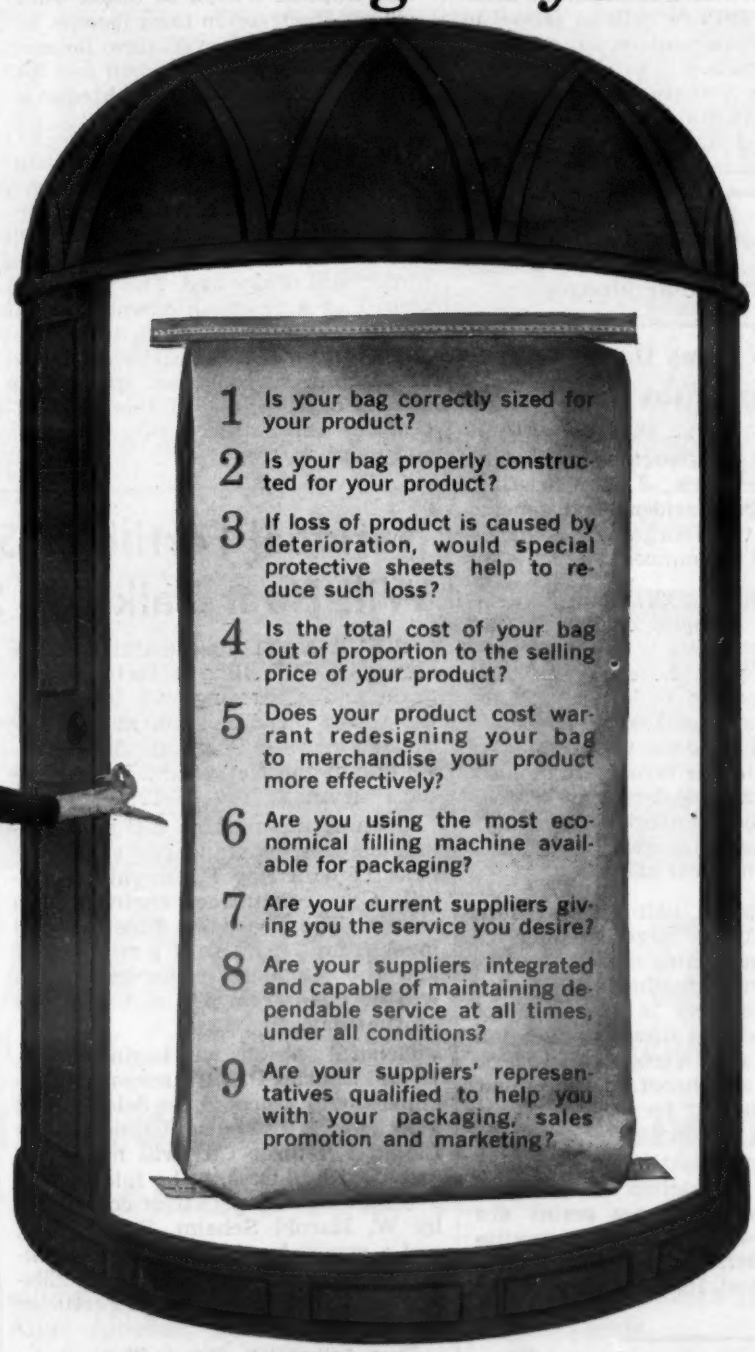
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2 Is your bag properly constructed for your product?
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4 Is the total cost of your bag out of proportion to the selling price of your product?
5 Does your product cost warrant redesigning your bag to merchandise your product more effectively?
6 Are you using the most economical filling machine available for packaging?
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Gaither T. Newnam

IN SAFETY POST—Gaither T. Newnam has been named to succeed Vernon T. Gornto at the Smith-Douglass Co., in charge of safety and industrial insurance. He will additionally serve as labor relations representative. Mr. Newnam, a native of Pelham, N.C., joined Smith-Douglass in 1934 as a salesman at its Danville plant, and later was promoted to assistant manager. From 1943 to 1946 he served in the navy. Upon release, he returned to Smith-Douglass as production manager for its Streator, Ill., plant. In January, 1956, he was transferred to Plant City, Fla., as personnel manager and safety director for the Coronet Phosphate Co. In his new position, Mr. Newnam will headquarter at the company's home offices in Norfolk, Va. Vernon Gornto recently retired as S-D safety director.

Monsanto Plans Urea Plant in Arkansas

ST. LOUIS, MO.—Monsanto Chemical Co. will construct a urea plant at El Dorado, Ark., J. L. Christian, Monsanto vice president and general manager of the Inorganic Chemicals Division, has announced.

Construction of the plant, which will have a capacity of 100 tons a day, will get under way before the end of the year, he said, and the plant is expected to be on stream by early fall of 1958. The new facility will produce urea in both prill and solution forms. Ammonia and carbon dioxide, both raw materials for the manufacture of urea, are made at the Inorganic division's El Dorado chemical plant.

The new plant will enable Monsanto, already a large supplier to mixed fertilizer manufacturers, to expand its services to the fertilizer industry, particularly in the fields of urea solutions and direct application of liquid and solid nitrogen fertilizers. Urea also is an important ingredient in mixed ruminant feeds.

In addition, Mr. Christian pointed out, Monsanto's Plastics Division uses urea for the production of urea formaldehyde resins. These resins are used as plywood adhesives, textile finishes, binders in molding granulated wood and for other industrial processes.

Commercial Solvents Corp. Earnings Up for Quarter

NEW YORK — Commercial Solvents Corp. reports for the quarter ended Sept. 30, 1957 consolidated net earnings of $406,252 equal to 15¢ per share on 2,741,422 shares of common stock. Sales for the quarter were $17,180,728.

Consolidated net earnings for the nine months ended Sept. 30, 1957 were $1,637,659 equal to 60¢ per share. Sales for the nine months were $46,548,018, the company reports.

To Seek Means of Estimating Future Plant Food Use

WASHINGTON—A research project to develop methods for estimating regional and national demand for plant food, one and two years in the future, has been established by the National Plant Food Institute and will be conducted by the North Carolina Agricultural Experiment Station under a grant from the Institute, it has been announced.

Members of the Institute staff have met with Dr. R. A. King, project leader for the study, and Wilson Riggan, research assistant, for the purpose of reviewing plans and establishing benchmarks.

"The project has been prompted by the need of the fertilizer industry for some reliable basis for projecting demand to be used in planning production and sales programs," Dr. Russell Coleman, executive vice president of the Institute, points out.

"There is reason to believe," Dr. Coleman said, "that the factors influencing the demand for fertilizer today are much more complex than in the recent past. For instance, prior to World War II, fertilizer consumption tended to follow very closely the trend in farm income. In recent years, however, farm income as such seems to have had less influence although it undoubtedly is still a factor."

Dr. King hopes to be able to evaluate all of the various factors which influence trends in fertilizer consumption, and to develop a formula which will make possible at least short-term projections of demand. The study will consist of a thorough examination of previous work in this field, an exhaustive evaluation of available data and an attempt to construct appropriate models on the basis of this information for estimating future fertilizer consumption trends.

SAFETY OFFICERS ELECTED

CHICAGO—The fertilizer section of the National Safety Council named the following officers at its annual meeting here Oct. 21-22: George F. Dietz, safety director, Fertilizer Manufacturing Cooperative, Inc., Baltimore, Md., chairman; George L. Pelton, personnel manager, Smith Agricultural Chemical Co., Columbus, Ohio, vice chairman; Elmer Perrine, technical representative, Nitrogen Division, Allied Chemical & Dye Corp., New York, secretary-treasurer.

Three new members to the executive committee were also named at the meeting. These were Gaither T. Newman, manager of the insurance department of Smith-Douglass Co., Norfolk, Va.; C. S. Griffith, superintendent of the Cincinnati, Ohio plant of Virginia-Carolina Chemical Corp.; and Quentin S. Lee, Cotton Producers Assn., Atlanta, Ga. Mr. Newman replaces Vernon S. Gornto, retired, and Mr. Griffith succeeds Curtis A. Cox as a member of the committee.

FERTILIZER SAFETY MEETING

(Continued from page 1)

in question, we would reach the amazing conclusion that the accidents occurred, because the men involved did stupid things, contrary to well known and established rules, for no apparent reasons other than complete disregard of all consequences. Obviously, such a conclusion would make prevention of accidents an impossibility, for the control of any problem is predicated on the proposition that all, or at least a great majority of those involved, want to eliminate the problem, and are ready to work to that end."

This situation existed only because the data established for each accident was not true or complete, and the conclusions drawn were for some purpose other than to identify a problem and establish a remedy for that problem.

"This accident problem often seems insurmountable when viewed as a whole, and often ridiculous when considered in the light of the false and incomplete data available to us. It is my opinion that this problem can be brought into focus, or we can be zeroed in on the target if we will give enough attention to digging into the specific problem to get the full and accurate actual information, and to reach conclusions through our best efforts at problem analysis.

"Accident investigation is justified on the basis that practically all men are honest, interested in their own well-being and security, as well as the well-being of their fellow men. They are also ready and willing to do their work to the best of their ability.

"The fact that the job performance is not always up to this standard has its cause in some specific factor that can be found only through a complete investigation. Perhaps this is best said by one of our outstanding men in the field of training, 'Most acidents occur because someone did not know enough about something.' If we identify the something which was not known with accuracy, and relate it to the person or persons who are involved or can be involved, we have started a chain of action that can lead to successful accident prevention work," he said.

Mr. Kavanaugh said that a suitable investigation form to be used in determining the cause of accidents, should contain these provisions:

1. Full identification of the incident under investigation. (Including date, time, location, person, machine, and equipment involved.)
2. Description of injury or damage.
3. Description of the accident. All factors involved, on a step-by-step reconstruction of the mishap.
4. Outlining specific condition and/or acts which caused the accident.
5. Reason for the specific cause or causes named.
6. Remedy. Each investigation should conclude with the specific action to be taken to prevent a similar occurrence.

Hazards in connection with the handling and using of ammonia in fertilizer manufacture were outlined in a talk by E. V. Anderson, safety engineer of Johnson & Higgins Co., New York. Mr. Anderson reviewed the chemical and physical properties of ammonia, pointing out the care with which the material must be handled.

Speaking of anhydrous gas, he reminded that ammonia is a liquid at one atmosphere pressure and minus 28° F. temperature. "With sufficient pressure, it will remain a liquid as the temperature is raised and an ordinary ammonia cylinder will have this liquid under an internal vapor pressure of 114 lb. gauge at 70° F. Raising the temperature to 140° F. triples the pressure to 364 lb. for a partly filled cylinder. At the boiling point of water the pressure is 900 lb., while at 270° F., the pressure is 1,600 lb., equivalent to the normal pressures found on oxygen cylinders for example.

"However," he said, "the hazard of ammonia cylinders is more serious than that of other compressed gases for several reasons. First, the gas is a noxious or toxic material. Leakage of an oxygen cylinder aside from possible fire hazards presents no damage other than loss of material. However, one-third of a pound or about one glass full of liquid

(Continued on page 20)

National Fertilizer Solutions Group Will Hear Talks on Sales, Management

CINCINNATI—Successful business management, selling a fertility program and marketing will be among the topics for discussion at the National Fertilizer Solutions Assn. convention at the Netherland Hilton Hotel, Cincinnati, Nov. 17-19.

Opening the meeting will be a general session on standards at 9 a.m. Nov. 17 with Roy F. Broyhill, Broyhill Co., committee chairman, in charge. The board of directors will meet from 2 p.m. to 6 p.m. Nov. 17 and the suppliers' conference room will be open from 6 p.m. to 10 p.m. on that day.

General sessions will begin on Nov. 18 and Charles P. Taft, mayor of Cincinnati, will welcome the delegates at 9:30 a.m. E. E. Crouse, United States Liquid Fertilizer Co., will make the president's address, to be followed by a report on the activities committee by W. Harold Schelm, Schelm Co., and a report by the nominating committee's chairman, Robert B. Ellsworth, United States Liquid Fertilizer Co.

Two talks, "A Giant Sleeps," by Minita Westcott, and "A Fistful of Future in Selling," by Ralph Everett, Empire Sales Training Center, will be highlights of the Nov. 18 morning program. Mr. Everett, a graduate of Cornell University, began a selling career with the Ralston Purina Co. and has in recent years conducted many sales clinics for agricultural-related industries. Suppliers' conference rooms will be open in the afternoon and evening of Nov. 18.

The Nov. 19 sessions are as follows: 9:30 a.m. to 12 noon, general session, Mr. Crouse presiding; report of standards committee, Mr. Broyhill, chairman; "Material Supply Outlook," panel discussion, Mr. Crouse, moderator—"Nitrogen," H. H. Tucker, Sohio Chemical Co., "Phosphoric Acid," W. R. Bone, Monsanto Chemical Co., "Potash," Dean Gidney, United States Potash Co.; 11:15 a.m., "Successful Educational Meetings," Howard R. Lathrope, agronomist, Nitrogen Division, Allied Chemical & Dye Corp.; 2 p.m. to 4 p.m., general session, convention chairman, Ernest M. Harper, presiding; "Essentials to Success: Successful Business Management," Dr. John K. Pfahl, department of business administration, Ohio State University; "Selling a Fertility Program," Dr. Gordon Ryder, extension agronomist, Ohio State University; "Marketing Fertilizers," Dr. John W. Sharp, grain marketing and farm supply, Ohio State University; panel discussion—"Additives to Fertilizer Solutions," Robert B. Ellsworth, moderator—"Various Pesticides in Fertilizers," C. A. Hamsher, supervisor, agricultural chemicals, technical service, general chemical division, Allied Chemical & Dye Corp.; "Chelate Applications," Dr. E. J. Haertl, agricultural development department, Dow Chemical Co.; "Gibberellic Acid," Dr. Edwin F. Alder, plant physiologist, Lilly Research Laboratories.

The annual dinner will be served at 7 p.m. Nov. 19, following which Mack Sauer, editor, Leesburg (Ohio) Citizen, will speak on "A Country Editor Spreads It On."

CREDIT MANAGER NAMED

MIDLAND, MICH.—The Dow Chemical Co. has announced the promotion of Lowell E. Tompkins to manager of its credit department.

Robert A. Howard

OINS COLLIER—Robert A. Howard as been appointed Arizona district les representative for the Collier arbon and Chemical Corp. Accordg to R. H. McGough, manager of gricultural chemical sales, Mr. Howrd will immediately assume responbilities of the company's Brea Brand rtilizer marketing activities in the rea. Mr. Howard is a graduate of the niversity of Minnesota College of griculture where he received a bachlor of science degree in plant industry. After graduation he taught ourses in agriculture to veterans at lmore, Minn. schools. He is a native f Princeton, Minn. Before coming to he Collier Carbon and Chemical orp. he was manager of Baldwin iquid Fertilizers, Inc., Baldwin, Wis. e is a former vice president of the isconsin Agricultural Ammonia ssn.

William E. Lane Joins IMC Sales

CHICAGO—William E. Lane has oined International Minerals & hemical Corp. as a sales representave for the agricultural department f the company's potash division.

Mr. Lane, who came to IMC from lack and Decker Manufacturing Co., ucceeds Roy Roughton, who has been ransferred to an eastern area of the ivision's midwestern district.

A resident of Des Moines, Mr. Lane ill work in Iowa, Missouri, Minneota, Kansas, Nebraska, Colorado and he Dakotas. He recently completed hree months of training at IMC's otash plant in Carlsbad and at other ompany locations.

Rohm & Haas Gets Foreign Rights to Vapam

NEW YORK—Rohm & Haas Co. as been granted foreign manufacure and sales rights to Vapam soil umigant, it has been announced by tauffer Chemical Co., the owner of he patents and trade mark on this ew product. Vapam is Stauffer's rand of sodium methyl dithiocarbamate soil fumigant.

The license covers all foreign counries except U.S. possessions, Belium, Luxembourg and the Netherands. Under the agreement, Stauffer will supply Rohm & Haas and its ffiliated and subsidiary companies ith technical information and guidnce for the manufacture, application nd use of the new soil fumigant under Stauffer's patents. Rohm & Haas ill also be granted the right to sell he product under the Stauffer trade ame Vapam in the territory licensed o it.

Officials of both companies said that he arrangement would accelerate inernational use of the new pre-plantng soil fumigant. Vapam was introuced by Stauffer in 1956 for the conrol of soil fungi, nematodes and eeds.

Smith-Douglass Sales Show Gain, Net Income Declines

NORFOLK, VA.—Net sales of $37,283,450 and net income of $1,778,860 for the fiscal year ending July 31 was reported by the Smith-Douglass Co., Norfolk, Va., manufacturer of fertilizer and chemicals, in its annual report released recently. Earnings on common stock amounted to $1.78 per share for 1957, compared to $1.91 per share the preceding year. Net sales for the prior year were $37,201,823 and net income was $1,901,298.

Although profit margins were less favorable for the year ended, steps taken to improve techniques and efficiences and to effect economies have resulted in improved profit margins at most of the company's locations, the report stated.

A drastic decline in the selling price of nitrogen, of which the company is a basic supplier, an expected decrease in tonnage of phosphate rock shipments, plus a drouth in portions of Virginia and the Carolinas and spring floods in the Midwest, all contributed toward decreased earnings, the company said.

Substantial improvement has been made in the production and distribution of specialty fertilizers for nonfarm use, and progress to date in long-range planning justifies a degree of optimism for 1957-58, Ralph B. Douglass, chairman of the board, and W. R. Ashburn, president, said in their letter to stockholders. During the year ended, the company spent $1,246,113 for net additions to property, plant and equipment. No consideration is now being given to any sizeable capital outlays for plant expansion or modernization, they said.

The report noted that the company's efforts in the chemical field had progressed to a point in September, 1957, where a new vice president, R. S. Rydell, was elected as vice president for chemical products.

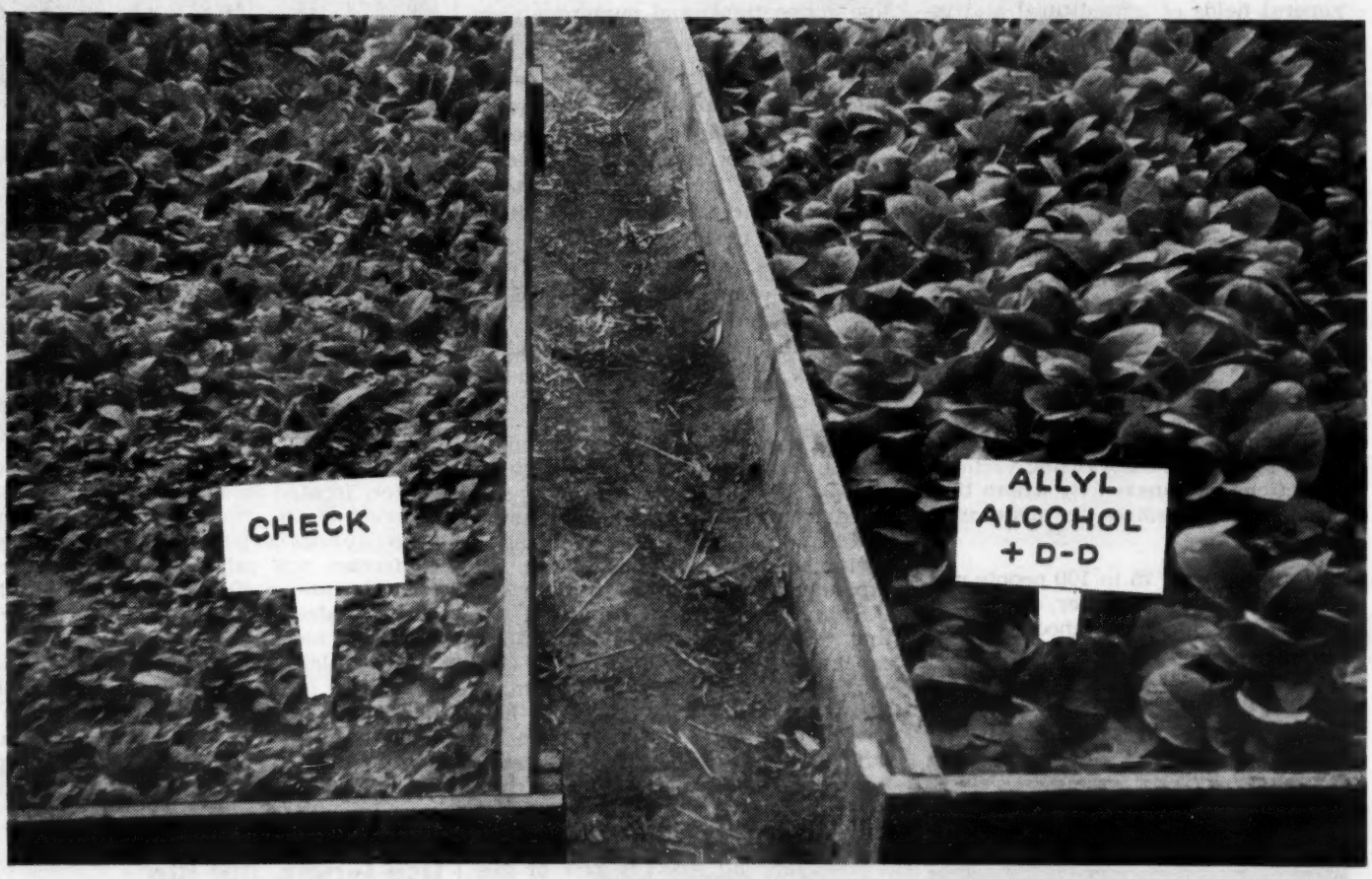
In explaining to stockholders the acquisition of Texas City Chemicals, the report stated that in May, 1957, Smith-Douglass acquired Texas City Chemicals, whose plants were relatively new and had been constructed at a cost in the neighborhood of $6,000,000. Under an approved reorganization of that company, long-term debt was reduced from $6,000,000 to a first mortgage of $2,300,000, which was guaranteed by Smith-Douglass, and to $400,000 of income debentures.

Smith-Douglass became the sole owner of the outstanding stock for $500,000 and contributed $500,000 to working capital through the purchase of superior notes of the reorganized company. Smith-Douglass' fertilizer operations in the Southwest are now being relocated from Houston to Texas City.

NEW MEXICO SHIPMENTS

STATE COLLEGE, N.M.—New Mexico fertilizer shipments during the three months ended Sept. 30 totaled 4,731 tons.

NOW...two-way protection for seed beds in one application



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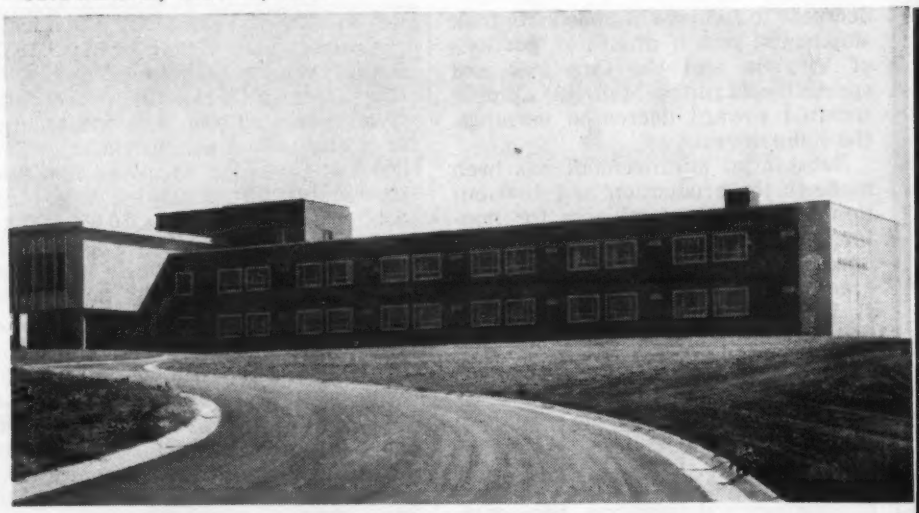

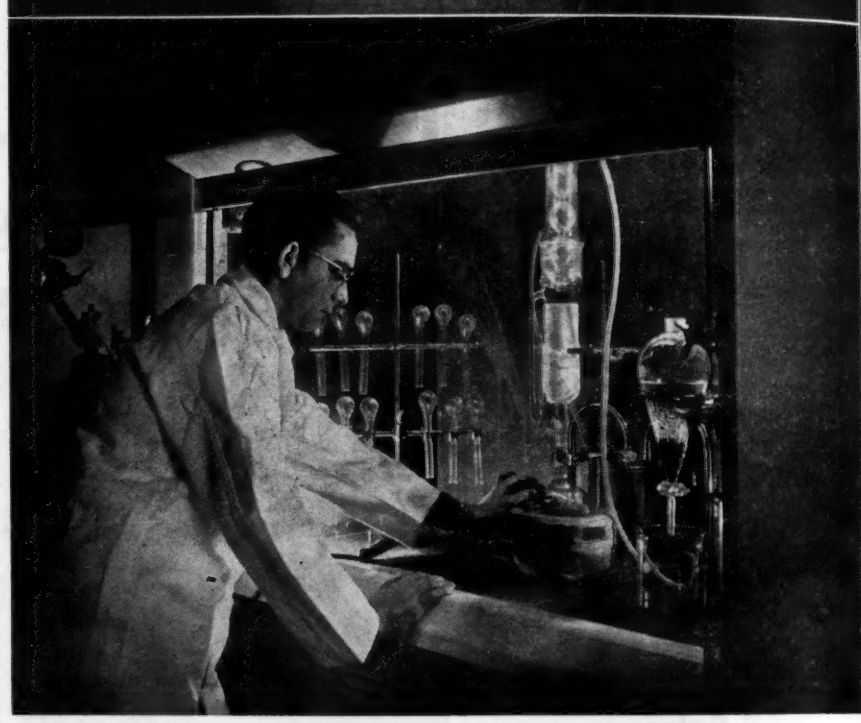

NEW RESEARCH CENTER—Spencer Chemical Company's new research center, located in suburban Kansas City, is seen above. At top, left, is the exterior of the three-level structure which contains 34,000 square feet of space. It houses the administrative offices and 27 laboratories, plus the library, conference and cafeteria facilities. Location of the center is some 12 miles from downtown Kansas City. In addition to the building shown, the center also includes a separate process laboratory building and a greenhouse for biological research.

Top picture above shows the entrance to the lobby of the main building, and below is seen a typical staff member at the research center, preparing to conduct an experiment in one of the 27 laboratories. The center is devoted to research and development of new and improved products in agricultural and industrial chemicals as well as in plastics.

RESEARCH UNLIMITED . . .

Spencer Dedicates Big New Laboratory at Kansas City

KANSAS CITY, MO.—Spencer Chemical Company's new research center in suburban Kansas City was dedicated on Oct. 22. It will be devoted to research and development of new and improved products in the general fields of agricultural and industrial chemicals and plastics.

Located on a 48-acre tract in Johnson County, Kansas, 12 miles from downtown Kansas City, the center is composed of three structures—the main administrative-laboratory building, a separate process laboratory and a greenhouse for biological research. The main building, constructed on three levels, contains 34,000 square feet of space, 27 laboratories of varying size and purpose as well as offices, library, conference and cafeteria facilities.

Completion of the research center culminates plans long envisioned, and is in line with the company's policy of centralizing various functions in Kansas City where the firm's general offices are maintained.

Initially about 75 to 100 people will be employed at the center, about half being professionally trained chemists and engineers and the balance, technicians and clerical workers. Until the completion of the center the chemical research laboratories of the company were located at Spencer's Jayhawk Works, 20 miles south of Pittsburg, Kansas.

Construction of the new laboratory required some seven miles of pipe, a 3-ton air conditioning unit for each laboratory, and of course the installation of facilities for gas, hot, cold and distilled water, steam and vacuum line connections, and numerous electrical outlets.

As part of the dedication ceremonies, a bronze plaque was presented to Kenneth A. Spencer, president, in recognition of his "contributions to and continuing interest in research." The presentation was made by Arthur Mag, secretary of the firm. Contributors were members of the company's board of directors, including three other officers of Spencer, C. Y. Thomas, John P. Miller and Joe E. Culpepper, vice presidents.

Dr. Charles N. Kimball, president of the Midwest Research Institute, Kansas City, told the visitors and guests at a dedication dinner, that research people face many challenges, particularly in connection with the expanding population picture in the U.S. and the world. He pointed out that while the national population is expected to increase by some 30% in the next twenty years, the total labor resources will increase only by half that much. "In order simply to maintain today's living standards," he said, "we must find ways to enable each worker to produce more goods per hour of labor."

Research, he said, is one of the prime ways to meet these challenges. He stated further that 10% of the anticipated sales volume of 1960 will be in new products; things that are not in existence today. "In the growth industries, like chemistry, 20% of 1960's sales are expected to be in new products," Dr. Kimball added.

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Minnesota Fertilizer Use Gains, But Big Potential Still Exists

ST. PAUL—Minnesota farmers are using more fertilizer than ever, but there is still a lot of state cropland which is going hungry for plant food.

There was about 15% more fertilizer used during the 1957 crop season over a year earlier, according to Dr. W. P. Martin, head of the University of Minnesota soils department and R. E. Bergman, state feed and fertilizer control office. Total fertilizer use so far this year is about a half million tons in Minnesota.

But Dr. Martin points out that plant nutrient use is still outrunning fertilizer application. Only half of the farmers in the Gopher state use any commercial fertilizer at all. And most of what they do use goes on corn.

One bright spot in the fertilizer picture is a steady trend toward "higher analysis" fertilizer, Dr. Martin says. Total plant food now makes up more than 40% of all fertilizer sold, compared to only 27% 10 years ago.

Biggest increase in fertilizer use has been in straight fertilizers, which gained 21% during the past year. Mixed fertilizers, such as 4-16-16, increased only 13%. Mixed fertilizers accounted for 80% of the total, however.

Dr. Martin attributes the upward trend in fertilizer use to increasing awareness by farmers that fertilizer is one of their best guards against the price-cost squeeze. Prices for fertilizer have risen only 6% in the past 10 years, compared to 40% for land and machinery, 28% for wages and building supplies and 56% for farm real estate taxes.

Also, Dr. Martin explains that fertilizer increases production efficiency. Fertilizer often returns as much as $3-5 in increased crop value for every dollar of fertilizer cost. Increases in soil tests have also helped boost fertilizer use. Dr. Martin says the University soil testing laboratory handled 20,000 samples in 1956 and has tested even more than that so far this year.

CHAMPION GRASSMAN

PORTLAND, ORE. — Dave Campbell of Bly, Klamath County, was named 1957 Oregon Grassman of the year in the final contest sponsored by the Portland Chamber of Commerce. Ten county grassmen competed in the finals for top honors. The winner won $300 in cash from the United States National Bank of Portland and will compete for the Pacific Northwest Grassman title and a $750 cash award. Ezra Galloway, Tillamook County won second honors with $200 as the prize money.

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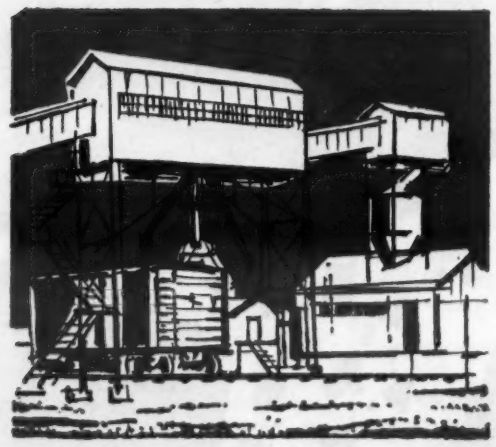

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Monsanto Ships First Ammonia by Barge

EL DORADO, ARK.—Monsanto Chemical Company's El Dorado plant has achieved a "first" with its initial shipment of anhydrous ammonia by barge on the Ouachita River. The event was announced by A. M. Sprague, manager of the plant which is an installation of Monsanto's Inorganic Chemicals Division.

Ammonia was transported by Wheeling Pipeline Co. in high-pressure tank trucks from the El Dorado chemical plant to the company's dock as Champagnolle. A total of about 60 truck loads was required for the shipment, Mr. Sprague said. The barge, which is leased by Monsanto, has capacity for 840 tons of ammonia in its six high-pressure tanks. Loading was accomplished in about 42 hours and the barge made its departure early Saturday morning.

The shipment was consigned to The Chemstrand Corp. at Pensacola, Fla. Entering the Mississippi River above Baton Rouge, the barge will travel along the Intercoastal Waterway from New Orleans to Pensacola.

Mr. Sprague stated that barge shipment of ammonia from the El Dorado plant will continue, although no exact schedule has been established.

Cotton Fertilization Tests to Be Launched in New Mexico Laboratory

ARTESIA, N.M.—New laboratory equipment costing $16,000 is to be used in cotton nutrition tests at the Southeastern New Mexico Substation near Artesia. Fertilization problems will be studied in an effort to learn the effect of various fertilizers upon the quality of the cotton. Also the difference in yields is being studied to determine the best type fertilizer for this area.

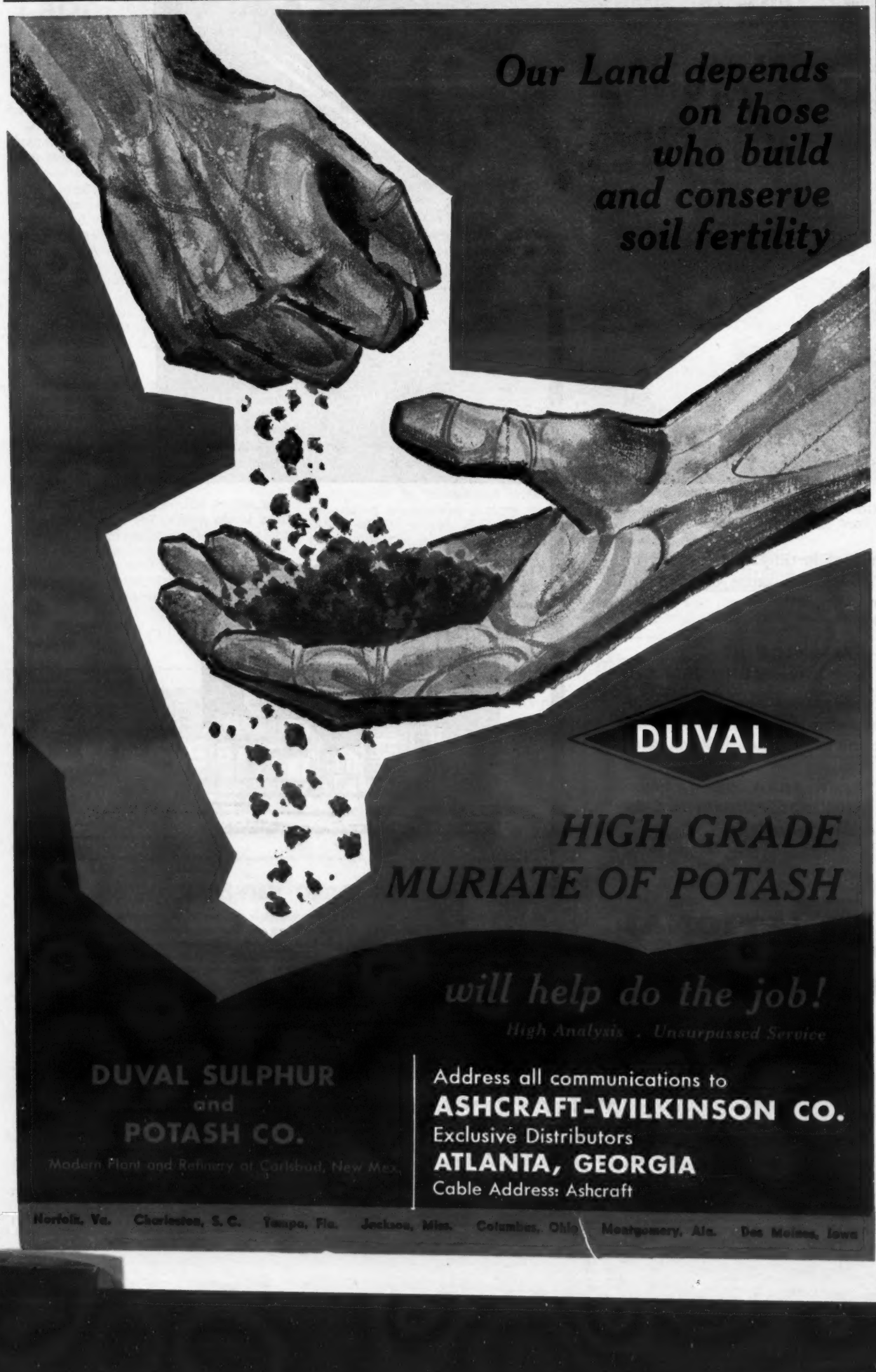
Dr. Ed Clark, soil scientist, says that as much as 450 pounds of nitrogen to the acre may be used with economical results. The station has not yet determined the optimum amount to be used, however.

The station, now in its second year, was established after land owners bought the land and added much of the needed equipment. Then the state took over the station and agreed to finance the maintenance of it.

The station plans to work on many problems of this area, such as better plant strains, salting of the soil, alfalfa aphid control and the fertilization tests.

ENTOMOLOGY FUND GROWS

NEW BRUNSWICK, N.J.—The Thomas J. Headlee Fellowship Fund for fundamental research in entomology now stands at over $45,000, Rutgers University has announced.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FARM CHANGES

(Continued from page 1)

Bureau attributes the renewed acceleration partly to the availability of social security benefits to the older farmers. Another aspect is found in an examination of the farm population decline wherein Census Bureau shows that the large drop is to be found in the 18 to 44 age grouping.

The farm labor population residing on farms in April, 1957, according to the Census Bureau, is estimated at approximately 7.9 million persons, of which 61% was wholly or primarily employed in agriculture and the balance wholly or partially employed in nonagricultural pursuits.

From the foregoing it may be suspected by sales-minded persons in the farm chemical industries that these small farm units are questionable sales prospects for the chemical materials. Such sales may be of such small quantities that the servicing and delivery problems more than offset the profit margins available unless there may be found some way to develop a coordinated service by the local suppliers who can wrap up into a single service package a large number of these farm units.

An even stronger item of evidence of the vastly changing pattern of the rural communities of the U.S. is to be found in a recent statement made to a North Carolina rural development conference by Dr. Harry J. Reed, coordinator of those activities for the U.S. Department of Agriculture.

In that statement Dr. Reed said in part, and with significance to the farm chemical industries, that Census Bureau reports now indicate that there are nearly two million farms in the U.S. with sales of less than $1,200 per year and that these units constitute about 40% of the nation's farms. The total sales from these farms is estimated at about $856 million or only 3½% of the national total from farms.

However, Dr. Reed spoke hopefully of rural development programs now in effect under USDA leadership in cooperation with state and local communities. He said that in the past 2 years many low income areas have made remarkable progress economically through the cooperative effort of local people, local industries, farm organizations, chambers of commerce and other interested groups. The greatest area of this improvement has been in farm communities near progressive, expanding urban industrial centers.

Dr. Reed's optimism may provide some thought for service agencies in the agricultural chemical fields where in they can coordinate their sales activities with those of the rural development programs. They can take their share of the problem and at the same time develop substantial sales volume at a profit to themselves.

This has not been meant as a gospel of disaster but rather a caution that the farm market needs a careful scrutiny by companies catering to its wants. It may be discerned that the communities where the government loan programs and soil bank participation are the heaviest or where "the waiting for government checks" is concentrated may be an illusory and temporary market, indicating an inherent weakness in that particular market.

Again, it must be remarked that this is no effort to feature unfavorable aspects of the farm market. It is rather an attempt to pinpoint vital sales problems for all concerned—the manufacturer and his dealer or distributor.

It seems to indicate the necessity of a comprehensive review of sales territories by all concerned and a possible realignment of sales emphasis so that the best can be obtained from the sales energy expended.

SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

Do fertilizer dealers and salesmen representing both retailers and manufacturers feel that short courses are worth the time, money and effort expended in arranging and attending them? Are these short courses effective in improving selling practices?

Judging from a survey in which the Georgia Plant Food Educational Society participated, the answer to these questions is overwhelmingly yes.

Fifty questionnaires were submitted and summarized. A study of the written comments reveals the following:

1. Several who indicated that three days was the right length of a short course wrote in the margin that 2½ days would be better.

2. A number of the participants stated that it would be desirable to hold the short course early in the summer. June, July and early August were suggested. Two or three suggested November or December. However, August was picked generally as the best month.

3. Subjects suggested for inclusion in future short courses were: Merchandising (suggested by several individuals), fertilizer for horticultural crops, fish foods, pine trees, lawns, plant breeding, grades of fertilizer for various crops and control of insects and diseases.

4. Results of the questionnaire show that the large majority favors giving this same short course to another group of salesmen. This group was almost unanimous in requesting another short course next year. It was suggested that these two courses be held concurrently. It was also suggested that this short course be given to groups other than the fertilizer industry. Several suggested giving the course to county agents.

The questions asked in the questionnaire and the answers are as follows:

1. How would you classify the short course?

Excellent—43 **Good— 7**
Fair— **Poor—**

2. Were the talks in general too technical and hard to understand?

Yes— 1 **No—49**

3. This was a three-day short course. If similar programs are held in the future, is three days the right length?

Right length—39 **Too long— 8**
Too short— 3

4. This program was conducted during the latter part of August. Is August the best time of year to conduct future short courses?

Yes—40 **No—10**

5. Should this same short course be given next year to a different group of fertilizer and lime salesmen?

Yes—49 **No— 1**

6. Should a course dealing with recent results of soils and crops research be given this group next year?

Yes—48 **No— 2**

7. Did the speakers make adequate use of charts, graphs, color slides, and other visual material?

Yes—50 **No—**

8. Were adequate breaks and rest periods provided?

Yes—50 **No—**

9. Several basic talks were given on soils and plant physiology. Will the information presented in these talks be useful to you?

Yes—48 **No— 2**

Should similar basic discussions be continued in future short courses?

Yes—48 **No— 2**

10. The short course was divided into four separate subject matter headings—soils, plant physiology, fertilizers and lime, and economics. Rank the subjects in order of your preference 1 through 4.

Soils—2.1 Plant Physiology—3.5
Fertilizers and Lime—1.5
Economics—3.0

Cotton Farmer Proves Worth of Added Fertilizer

STANTON, TEXAS—An extra bale and a half of cotton per acre was grown this year through the use of fertilizer, claims Harry Billington of near here. He figures this way: The average yield in Mr. Billington's community is a bale and a half per acre. This year he had a large field that produced three bales to the acre.

Most farmers used about 100 lb. of anhydrous ammonia per acre. Mr. Billington used 200 lb. He also put on 50 lb. of phosphates.

"I had noticed that most cotton plants turned yellow along in August," he said, "which indicated the crop had depleted the soil's nitrogen. By using 200 lb. to the acre, my field stayed green right on up to maturity."

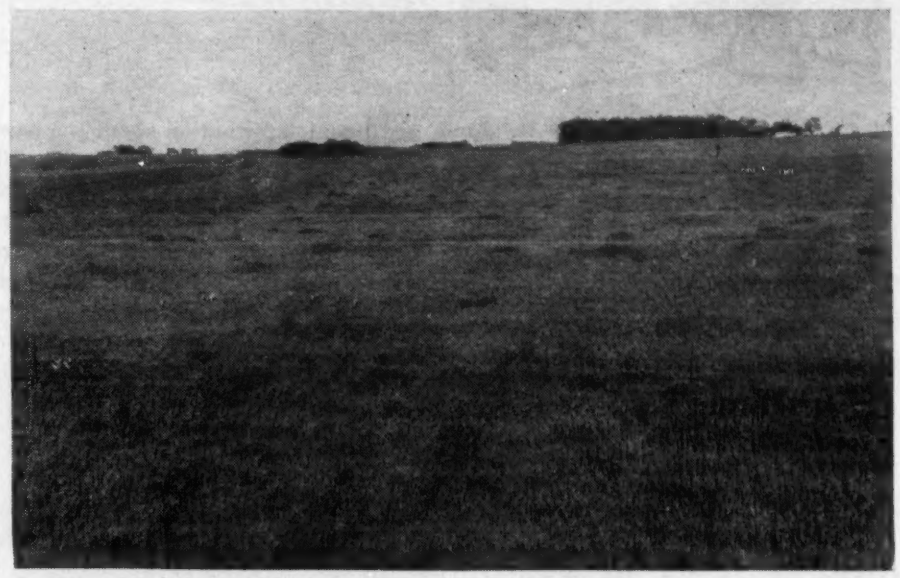
This field made three bales to the acre, while a small four-acre tract produced nearly four bales per acre, which is an all-time high record for this area, he says. On it Mr. Billington used 400 lb. of anhydrous ammonia for each acre and a liberal amount of phosphorus. He didn't expect such returns and was running the test merely to find out the optimum amount of fertilizer needed.

"It proves that farmers still aren't using enough fertilizer on irrigated fields," he said. "For each dollar spent on fertilizer, I'll get back 10 or 12."

47,000 Soil Samples Tested in Virginia

BLACKSBURG, VA.—W. W. Lewis, agronomist at Virginia Polytechnic Institute, says Virginia farmers sent 29,784 soil samples for regular testing, and 17,723 samples for testing under ASC regulations, during the July, 1956-July, 1957 period.

Total samples tested amounted to 47,507, only a slight drop from the preceding year, when 49,106 samples were tested. In samples sent in, Pittsylvania led the list with 1,747, followed by: Frederick, 1,570; Augusta, 932; Nansemond, 929; and Southampton, 884.



DEMONSTRATION—Fields such as this make excellent sites for fertilizer demonstrations. Nitrogen response is almost certain.

Demonstration Plots Rate Near Top as Selling Tool

By Dr. H. J. Stangel
Agronomist, Nitrogen Division, Allied Chemical & Dye Corp.

According to a recent survey of fertilizer dealers, demonstration plots were ranked third in effectiveness as a tool in selling to the farmer.

An ancient Chinese proverb says that a picture is worth 10,000 words. If this is true then seeing the results of a demonstration plot must be worth several pictures.

Today the fertilizer dealer is operating in a very competitive economy. We find many dealers selling on price alone. And as most fertilizer men know only too well, the price often gets down to the point where it is not possible to make a profit.

To compete in this type of economy the dealer must turn to other methods of selling. Many of these methods often make use of superior knowledge of a product and of the crops upon which it is used.

Now why, many dealers ask, should I have a demonstration plot? That's for the colleges and county agents. But is it? Let's look at how a demonstration plot can help sell fertilizer.

First there is the usual idea that a demonstration plot is used to show the need for fertilizer. That is an out-dated idea in most farming areas. Most farmers already use fertilizer. A demonstration in this case should show that more fertilizer is needed. It should show them how to produce more effectively and efficiently than they ever have before.

Many farmers are reluctant to use heavy rates of fertilizer the year after having done so. The value of carryover to next year's crop has been greatly over emphasized to the farmer. High yields are maintained only by relatively heavy applications of fertilizer each year. Most farmers do not apply enough plant food to replace that which is removed by each harvest. Only by applying enough fertilizer to restore fertility and then maintaining it is the farmer on a sound program.

This concept leads into high yields per acre and to the notion many farmers have that high yields are unprofitable. This notion seems particularly true of the record breaking yields. I have heard farmers say many times that these high yields were made by putting on so much fertilizer that it cost more than the crop was worth.

Everyone has heard of the 304 bu. of corn per acre which Lamar Ratliff of Mississippi produced, so let us see how unprofitable the world's record yield was.

25 loads of manure @ $4.00	$100.00
1,000 lb. 14-14-14	51.84
165 lb. N	21.00
Total fertilizer cost	172.84
Fixed costs (taxes, etc.)	50.00
Total cost per acre	222.84
304 bu. corn @ $1.25	380.00
Profit on one acre	$157.16

Unless these figures are wrong, this is more money than was ever before made on a single acre of corn.

Remember a demonstration plot is not a research tool. It is meant to show what research has already proven. It is meant to sell fertilizer for the dealer. Nothing else.

To make a demonstration an effective selling tool there are a number of points to remember to insure its effectiveness.

1. Locate fields for a demonstration plot now. Poor fields have been very evident during the past summer. Farmers who complain of poor yields at harvest are excellent prospects. If the dealer can give him a successful top yielding program, he will have a well satisfied customer. The chances are the dealer will also have one of the most successful demonstrations. Ask the county agent to help plan it. Invite him to participate. He can lend valuable emphasis to the results.

2. Test the soil before placing a demonstration on a given site. There is no point in locating a demonstration on a fertile area. Here management is most important in increasing yields. The dealer should be sure of results that will help him sell.

(Continued on page 11)

What's New...

In Products, Services, Literature

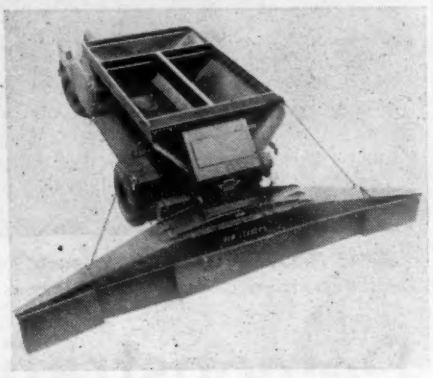
You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6650—Soil Pest Leaflets

How major soil pests can be treated by soil fumigation is described in a series of three new leaflets published by the Stauffer Chemical Co. Practical procedures are outlined for the use of a product trade named, Vapam, to kill annual and perennial weeds and germinating weed seeds, soil fungi which cause seed decay and damping off, nematodes and such insect pests as the garden centipede. Each of the leaflets deals with a specific agricultural problem — growing finer turf, flowers and shrubs, and vegetables. Copies are available without charge by checking No. 6650 on the coupon and mailing it to Croplife.

No. 6649—Fertilizer Spreader

The Highway Equipment Co., Inc., announces a new model, the "New Leader 3 Material Spreader." Nitrogen, phosphate, and potash are spread to the proper proportions as determined by the soil analysis of the land to be fertilized, it is claimed. The announcement states: "The spreader hopper is divided into separate compartments for three different fertilizers. A 36 in. wide heavy-duty 4-ply belt over a chain conveyor carries the fertilizer back to the cross augers at



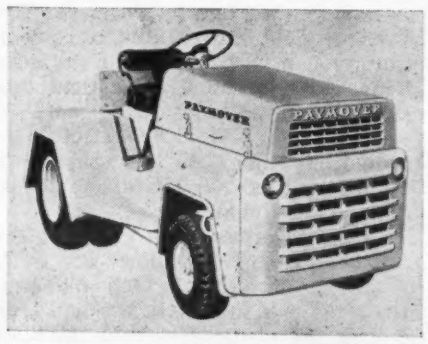
the rear of the machine. Each fertilizer is conveyed back on a separate section of the 36 in. belt. Sealer strips along the sides and at the end of the individual compartments keep the three fertilizers separated until they are dropped into the cross auger at the rear of the machine. The three fertilizers are first augered to the left, dropped into another auger, then augered back to the center of the spreader where they are dropped directly into twin distributor fans which uniformly distribute the fertilizer into the streamlined hood for an accurate spread. The hood, which spreads a 24 ft. width, is of sturdy construction and yet lightweight enough so that it can be folded easily by one man for road travel. The steep sloping sides of the hopper and the wide belt conveyor eliminate bridging. Special cleanout doors are provided for inspection, servicing, and daily cleaning." Secure details by checking No. 6649 on the coupon and mailing it to Croplife.

No. 6651—Home Garden Chemicals

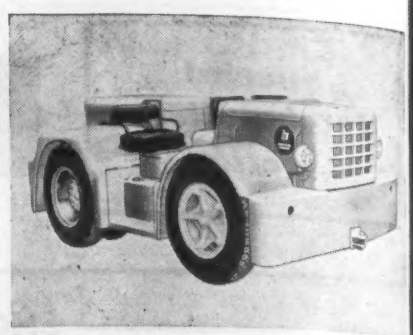
Several new chemical formulations bring to a total of 28 the number of insecticides and other chemicals which are in the Du Pont Company's line of products for the home gardener. Among the new products are an insecticide which is a combination of methoxychlor and malathion and 72% chlordane insecticide. Also new are an insect repellent and an aerosol dressing for tree wounds. Secure details by checking No. 6651 on the coupon and mailing it to Croplife.

No. 5838—Towing Tractors

The Frank G. Hough Co. has introduced its first two "Paymover" towing tractors for commercial applications. The two machines are the model T-50 with 5,000 lb. drawbar pull and the model T-60 with 6,000 lb.



drawbar pull. They are two-wheel drive models, and feature torque-converter drive and automatic transmissions. A wide variety of coupler attachments is available. Check No. 5838 on the coupon and mail it to secure details.



Head and tail lights are standard equipment. A wide variety of accessory equipment and attachments is also available, including 2-way radio units, aircraft engine starting systems, cabs, snow-plows, sweepers and winches. For detailed specifications or more information check No. 6647 on the coupon and mail it to Croplife.

No. 6645—Liquid Surfactant

A vegetable oil source liquid surfactant, called by the trade name Sole-Onic PGE, is described in a released by the Sole Chemical Corp. Company officials say that two of its uses are as a wetter-sticker adjunct for agricultural sprays, and as an anti-corrosion agent in water-containing aerosols. The bulletin may be secured by checking No. 6645 on the coupon and mailing it to Croplife. Please print name and address.

No. 6646—Product Booklet

The family of chemical products for industry and agriculture of the Diamond Alkali Co. is described in the fifth edition of a booklet called "The Story of Diamond Chemicals—Chemicals You Live By." This revised and enlarged, 32-page booklet presents a panoramic picture of these basic materials, their principal applications, and their production.

Fourteen major products or product-groups are discussed in digest form. They are: Soda ash, caustic soda, chlorine, chlorinated methanes, bicarbonate of soda, sodium silicates, calcium carbonates, chromates, specialized chemicals, organic chemicals, plastics, cement, coke and coke by-products, and agricultural chemicals, including lawn and garden chemicals. A copy is available on request. Check No. 6646 on the coupon and mail it to Croplife. Please print name and address.

No. 6640—Urea Ammoniating Solutions

A booklet on urea ammoniating solutions, including detailed unloading and handling instructions, has been issued by the Du Pont Polychemicals Department, manufacturer of "Uramon" ammonia liquors for the fertilizer industry. A chart in the booklet lists the advantages of urea nitrogen as a fertilizer for all crops. Other tables offer information on the characteristics of Du Pont's urea ammoniating solutions. In addition, special graphs report the pound-per-square inch (p. s. i.) pressures generated by the ammoniating solutions at various temperatures, and the temperature rise produced when these solutions are added to fertilizer mixtures. Unloading and handling instructions include schematic drawings of a tank car, and its various valves and connections. A copy of the booklet may be obtained without charge by checking No. 6640 on the coupon and mailing it to Croplife.

No. 6639—TEPP Film

The significance of insecticide formulations incorporating tetraethyl pyrophosphate, commonly referred to as "TEPP" and being produced by many well known insecticide manufacturers, is portrayed in a short motion picture film produced by Eastman Chemical Products, Inc., subsidiary of the Eastman Kodak Co. The company's announcement states: "Considerable attention was given

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6647—Towing Tractor

The Frank G. Hough Co. has announced the availability of a new Paymover tractor. The unit, model T-150, develops 15,000 lb. of drawbar effort and features power steering, four-wheel power brakes, power shifted transmission, dual rear tires, planetary-type final drives and a choice of gasoline, or LPG power, company officials state. It has travel speeds up to 22 m.p.h. The tractor is suited for industrial, rail and motor truck terminals and other tractor applications.

Send me information on the items marked:

☐ No. 5822—Dust Collector	☐ No. 6643 Supplement
☐ No. 5823—Speed Reducer	☐ No. 6644—Equipment
☐ No. 5838—Towing Tractor	☐ No. 6645—Surfactant
☐ No. 6638—Dust Collector	☐ No. 6646—Booklet
☐ No. 6639—TEPP Film	☐ No. 6647—Tractor
☐ No. 6640—Urea	☐ No. 6648—Insecticide
☐ No. 6641—Calculator	☐ No. 6649—Spreader
☐ No. 6642—Drive	☐ No. 6650—Leaflets
(PLEASE PRINT OR TYPE)	☐ No. 6651—Garden Chemicals

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

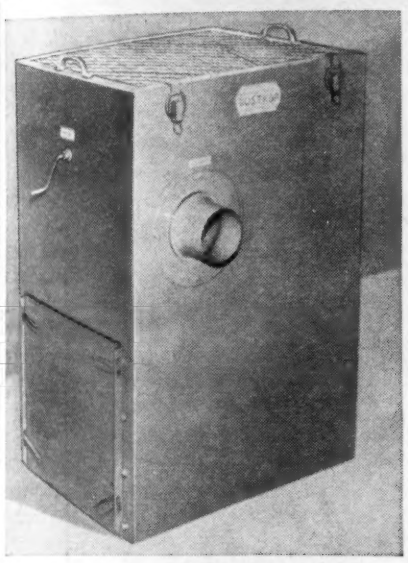
P. O. Box 67

Reader Service Dept. Minneapolis 1, Minn.

TEPP last year when the new federal controls went into effect regulating the use of toxic chemicals on food crops through the administration of the Miller Act. While extremely toxic when initially applied, TEPP possesses the unique property of decomposing into a harmless residue within 48 hours after application. This feature makes it particularly valuable in protecting crops virtually up to harvest time when the use of other insecticides would be unsafe owing to their longer residual effects." The film was originally produced in 1956, and subsequently withdrawn for revisions. The new version shows how the formulations combat insect pests along with approved methods of application. To secure details about securing the film check No. 6639 on the coupon and mail it to Croplife.

No. 5822—Dust Collector

A special, extra storage capacity dust collector, "Dustkop model 520-D," is the latest addition to the Aget Manufacturing Co.'s Dustkop line. Ten inches higher than the standard model 520, it has identical air handling characteristics and base



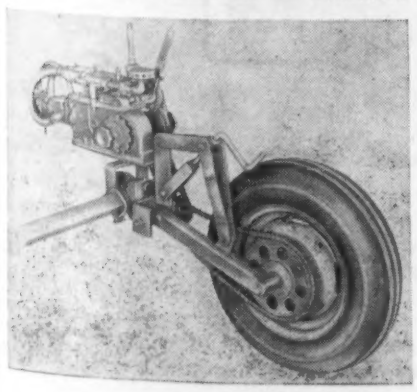
dimensions, but a dust storage bin that is over twice as large. The company recommends it for use in any shop operation where dust volume is unusually large. The base is 18 by 23 in, height 34 in. For detailed information check No. 5822 on the coupon and mail it to this publication.

No. 6648—Insecticide Booklet

A new booklet on the application of Phosdrin insecticide has been prepared by the Shell Chemical Corp. The booklet covers handling precautions, respiratory devices, details for aerial application, symptoms of toxication and first aid treatments, and information for physicians. The importance of following directions right to the letter is emphasized in the booklet. To secure a copy of the booklet without cost, check No. 6648 on the coupon, print the necessary information and mail it to Croplife.

No. 6642—Ground Wheel Drive

A drive wheel unit for operating anhydrous ammonia and liquid solutions metering pumps during fertilizer application has been announced by the Dempster Mill Manufacturing Co. The unit, which can be attached



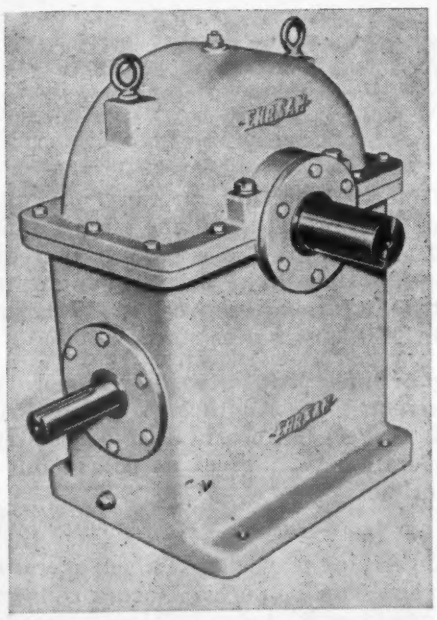
by a single clamp to either a 2-in. or 2¼-in. tool bar, eliminates adapting pump brackets and drive mechanism to control the liquid fertilizer application from the tractor. The unit can be mounted either to the rear or in front of the square bar and is quickly interchangeable from one tractor to another, it is claimed. The wheel is equipped with Timken bearings and roller chain sprockets. Dempster also markets Liquijector liquid fertilizer applicators and pumps for anhydrous ammonia or solutions. Secure details by checking No. 6642 on the coupon and mailing it to Croplife.

No. 6643—Liquid Feed Supplement

U.S. Industrial Chemicals Co., division of National Distillers & Chemical Corp., has announced a new liquid feed supplement for cattle and sheep which the firm believes will be of interest to liquid fertilizer manufacturers and distributors. The product, "Morea," is a liquid mixture containing urea, ethanol, phosphoric acid, essential trace minerals and molasses. U.S.I. said it will sell a concentrated liquid Morea premix to manufacturers who will blend the concentrate with molasses. The firm is currently appointing manufacturers who will mix and distribute the final product to farmers. The company stated that it believes liquid fertilizer manufacturers may have facilities for formulation and distribution of the product. For more details check No. 6643 on the coupon and mail it to this publication.

No. 5823—Speed Reducers

The J. B. Ehrsam & Sons Mfg. Co. has announced complete details of its improved line of speed reducers. The line, known as the Ehrsam style W, incorporates a number of improvements over previous designs, officials said. They are: easier-running bearings, sturdy micrometal housings, and heavy-duty worms and worm gears. The speed reducer is available in nine standard models or sizes, numbered 3W to 15W. (Model numbers indicate center distance between worm shaft and gear shaft. In model 3W, the dis-



tance is 3 in.) All models are available with a wide range of ratios. Weights of these standard models range from 125 lb. for model 3W to 2,950 lb. for model 15W. Complete literature on the line is available. Check No. 5823 on the coupon and mail it to this publication.

No. 6644—Liquid Fertilizer Equipment

General Metals, Inc., has published a new condensed catalog on its line of equipment for nitrogen solutions and complete liquid fertilizers. The company makes a line which includes such items as storage tanks and field applicators. The catalog gives brief descriptions of most all items in the line. Tanks of aluminum, steel and stainless steel are made in sizes ranging from 30 gal. to 22,000 gal. of both pressure and non-pressure types. Two wheel trailer applicators are made complete with trailer, tank, booms and pump. Other products described in the catalog are tractor applicators, a 3-point hitch applicator with 100-gal. tank and metering pumps. Secure the catalog by checking No. 6644 on the coupon and mailing it to Croplife. Please print name and address.

No. 6641—Calculator

A new type of calculator has been designed by the Phosphates and Nitrogen Division of the American Cyanamid Co. as an aid in determining quantities of phosphatic materials

to be added when formulating various grades of mixed fertilizers. The calculator can be obtained by fertilizer manufacturers who check No. 6641 on the coupon and mail it to Croplife.

No. 6638—Dust Collector

Literature concerning the use of the "Wheelabrator Dustube" dust collectors has been published by the Wheelabrator Corp. Some of the typical installations of the collectors outlined in the literature are: Controlling dust from manual unloading of product dryers; salvage material being lost at pulverizing and weighing stations and through the atmosphere; and to collect dust which creates a hazard to health, housekeeping and equipment maintenance. Secure details by checking No. 6638 on the coupon and mailing it to Croplife.

DEMONSTRATION PLOT

(Continued from page 9)

3. Locate the demonstration where it will be accessible at all times. Keep it adjacent to a surfaced highway if possible. Put it where it will be easy to see.

4. Have only a few treatments. Don't confuse the customer. If the demonstration is kept simple, the dealer will sell more. Keep the plots large. Make them ¼ acre or larger. Farmers can visualize the results in their own fields much better if they can stand in a plot and see a top yielding crop around them. Small garden size plots tend to be suspect. Better yet, make each field in which fertilizer is applied a potential demonstration plot and sales tool. Leave a check strip of two applicator widths and double the application on a similar area adjacent to it. Then there is a check, normal application and two times the normal rate. This situation makes every farmer a potential salesman. With a multitude of plots such as these the dealer can easily pick those showing the best results for publicity, tours, pictures, etc.

5. Because people like to stop and look at their leisure, label the treatments when they show a difference. Make a few signs large enough to read from the road, but do not call attention to a plot unless there is something to show.

6. When the demonstration shows something, then arrange publicity. This is important: **Arrange Publicity.** Bring the newspaper editor and radio farm director to see the plot. Don't just tell them about it. They may be very busy. Bring the banker and county agent as well. These people are among the most influential with the farmer.

Hold a tour. Invite customers personally, the farmer owner as well as the tenant. Prepare a mimeographed sheet pointing out what to look for at each stop or plot. After the tour leave copies in a prominent place in the warehouse or office. William Siegel of Jirdon Industries, Morrill, Neb., used the following plan very effectively.

STOP NO. 1—Schlotthauer Brothers

Test: Uran Nitrogen Fertilizer on Hiland Barley

General Information: Fertilizer applied as a spray on corn stalks before plowing, at the rate of 78 lb. per acre.

Cropping History: 1953 Bromegrass, 1954 beans (no fertilizer), 1955 beans (no fertilizer), 1956 corn (80 lb. N side dress), 1957 barley (78 lb. N).

Things to watch for: 1. Check plot. 2. Difference in size of barley and size of heads. 3. Difference in stooling between fertilized and non-fertilized. 4. Decomposition of corn stalks. 5. Corn crop in 1956 used all the nitrogen applied in that year.

With this short concise bit of information Mr. Siegel does several things. He calls attention to specific details which might otherwise go unnoticed. The use of more fertilizer than has been used before is stressed and the farmer is shown how to evaluate the results. Most important he is also pushing a particular product.

Continue to give publicity to the demonstration as long as it shows something. When it no longer shows results—forget it.

Harvest the demonstration only if definite use of the results can be achieved.

7. Take pictures—both color and black and white. If the dealer doesn't have a camera that will take sharp pictures, he should get one or have a professional photographer do it for him. Be sure to get pictures that can be used. Most dealers advertise in the local paper. Often the newspaper editors will take the necessary pictures at no charge if they are used in an ad. Local emphasis does more selling than any canned ad from a large fertilizer company.

But before the pictures are taken, get enough and get some close-ups to dramatically show real differences. Be sure to feature the farmer in the pictures. Get slides which can be used during winter meetings.

Penick Sponsors Dealer Display Contest

NEW YORK—S. B. Penick & Co., New York, announces a contest open to all dealers selling products containing Warfarin, the anti-coagulant rodenticide. The winning dealer will receive a check for $1,000.

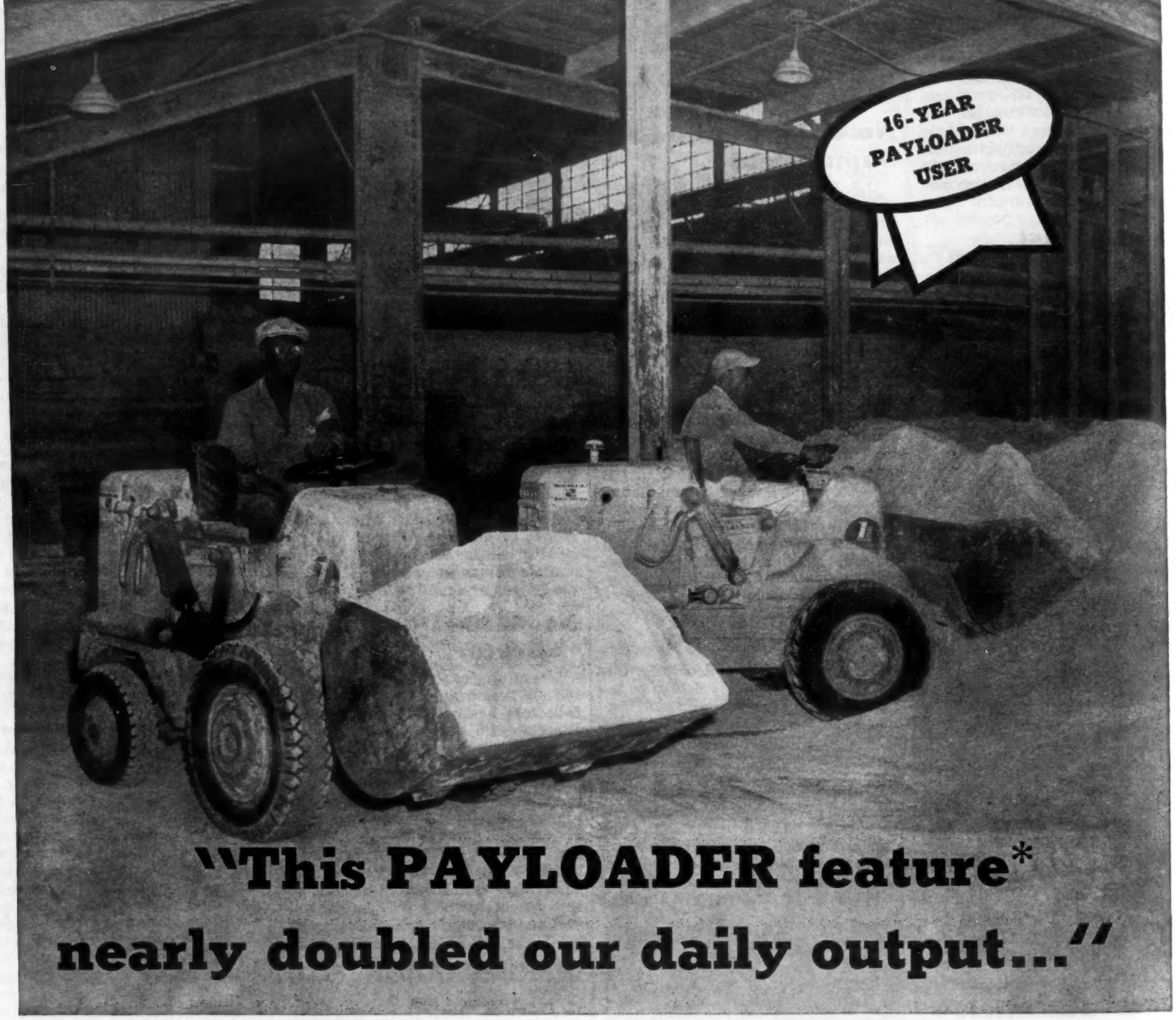
Contest rules call for dealers to set up a Warfarin display for two weeks between Nov. 1 and December 15. Each dealer will submit a photograph of his display along with his entry blank, and entries will be judged by an independent, impartial panel. The contest ends Nov. 30.

In addition to the prize for the winning dealer, Penick will award two prizes of $500 each to distributors' salesmen—one prize to the salesman selling the winning dealer, and another prize to the salesman submitting the most dealer entries.

Further information and entry blanks may be obtained from Warfarin distributors, or write to Warfarin Contest, S. B. Penick & Co., 50 Church St., New York 8, N.Y.

SUGAR BEET ALLOTMENTS

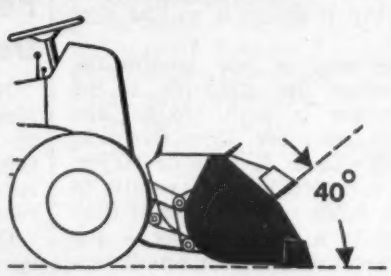
WASHINGTON—The national acreage allotment for 1958-crop sugar beets has been set at 915,000 acres, which compares with 950,000 for the 1957 crop and 850,000 acres for each of the 1955 and 1956 crops.



"This PAYLOADER feature* nearly doubled our daily output..."

*40° ROLL-BACK AT GROUND LEVEL

Develops powerful digging force — brings bucket close to machine for maximum stability and carrying capacity, and least spillage loss while transporting loads.



F. W. Tunnell Company, producer of glue, grease and fertilizer, has been operating at the same Philadelphia location for nearly 80 years. It is also a pioneer user of tractor-shovels for bulk materials handling, having bought one of the original "PAYLOADER" tractor-shovels in 1941, and been continuous "PAYLOADER" users ever since.

Speaking of their two new-style model HA units, Tunnell's Vice President, E. N. Angus, says, "This 'PAYLOADER' feature [roll-back bucket] has nearly doubled our daily payload in most of the operation . . . gives us continuous delivery with very low downtime."

Smallest of the "PAYLOADER" line, the Model HA has a 2,000 lb. carrying capacity. Other operating features include hydraulic load-shock-absorbers, torque converter drive, rear-wheel steering, one-lever bucket control, two speeds in either direction. Your nearby Distributor will gladly demonstrate how a Model HA or larger "PAYLOADER" can improve *your* handling methods.

THE FRANK G. HOUGH CO.
970 Sunnyside Ave., Libertyville, Ill.
Send more "PAYLOADER" information on:
☐ Model HA (2,000 lb. carry capacity)
☐ Larger models (up to 9,000 lb. carry capacity)
NAME_____
TITLE_____
COMPANY_____
STREET_____
CITY_____ STATE_____
11-A-4

SAY "HUFF"

PAYLOADER®
MANUFACTURED BY
THE FRANK G. HOUGH CO. LIBERTYVILLE, ILL.
SUBSIDIARY—INTERNATIONAL HARVESTER COMPANY

South Carolina Plant Food Group Hears Talk On "South's Changing Agriculture"

CLEMSON—An address by Dr. George King, director, Georgia Agricultural Experiment Station, Athens, Ga., climaxed the eighth annual meeting of the South Carolina Plant Food Educational Society here recently. He discussed "The South's Changing Agriculture" at a banquet at the Clemson House, which was the closing feature of a full day's program.

Other speakers and their subjects were: Hugh A. Woodle, leader, Clemson extension agronomy work, "The Corn Contest;" Robert H. Garrison, head, Clemson seed certification department, "Small Grain Plantings;" J. T. McAlister, conservation equipment engineer, Soil Conservation Service, Orangeburg, "Stubble Mulch Planting;" Dr. W. H. Garman, National Plant Food Institute, Washington, "Expanded Fertilizer Use Program of the National Plant Food Institute;" and Dr. J. F. Reed, southern manager, American Potash Institute, Atlanta, Ga., "Importance of Fertilizer Placement." Other features included a tour of the Clemson fertilizer department facilities conducted by B. D. Cloaninger, director, fertilizer inspection and analysis, and the election of officers.

As indications of a changing agriculture in the Southeast, Dr. King called attention to the development of a new concept of the scope and importance of agriculture, to the fact that small inefficient farms are becoming a thing of the past, to the change from crops alone to crops and livestock on the farms of the area, and to the use of better production practices.

Mr. Woodle pointed out that the state 100-Bushel Corn Club started in 1948 with 21 members now has 726 members and that the state corn contest started in 1949 has been largely responsible for practically doubling the average per acre yield of corn in the state. Both the 100-bushel club and the contest are sponsored by the South Carolina Plant Food Assn.

Mr. Garrison gave a brief summary report on a study made to evaluate the type of small grains being planted by farmers of the state and emphasized the need for more study and research on this problem. Mr. McAlister discussed the methods employed and results obtained in stubble mulch planting of soybeans and reported quite a large increase in the acreage so planted. Dr. Garman reported the National Plant Food Institute plans an expanded program to encourage a greater and more efficient use of fertilizers, and Dr. Reed advised placing fertilizer below and to the side of seedbeds.

Officers elected are: president, W. B. Nickles, Florence; vice president, J. Chiles Calhoun, Hartsville; and directors, Beaty Jackson, Anderson; Bryant Cooper, Mullins; Fred Atkinson, Hartsville; Wayne Dean, Columbia; Jim Gibbs, Charleston; G. L. Garvin, Columbia; and Frank Burgdorf, Columbia. A secretary-treasurer will be elected later. The retiring president is J. N. Davis, Leesville, who presided at the meeting, and the retiring secretary-treasurer is A. S. Gramling, Columbia.

New Insect Survey Program Initiated In New Mexico

ALBUQUERQUE—The New Mexico State Department of Agriculture in cooperation with the federal government is initiating a new insect survey program in New Mexico, Dallas Rierson, director, has announced.

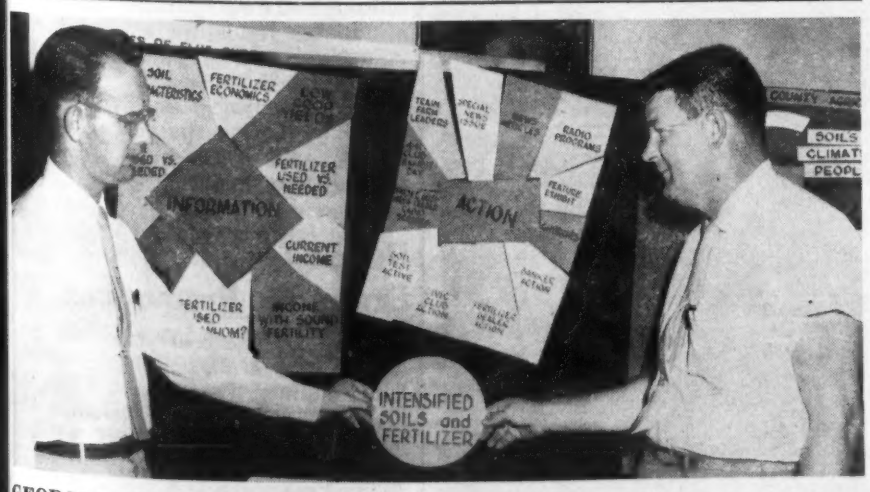
Object of the program will be to provide each agricultural agency a better over-all picture of insect conditions in the state; assist farmers and others to more adequately protect their crops from insect attack; assure more prompt detection of newly introduced insect pests; aid manufacturers and suppliers of insecticides and control equipment to determine areas of urgent need; to lead to the development of an accurate and dependable insect pest forecasting service; and in case of necessity, provide a countrywide skeleton structure to be expanded as needed to combat any attempts at biological warfare.

Heading the new program will be Dr. Gerald L. Nielsen, recently employed entomologist and biologist from Salina, Utah. Dr. Nielsen holds B.S. and M.A. degrees in zoology and biology from Brigham Young University, Salt Lake City, and recently obtained his Ph.D. degree from Utah State Agricultural College, Logan, Utah. While working on his Ph.D. degree he held an assistantship in research and teaching at Utah State. His dissertation for his Ph.D. degree was on the biology and control of the McDaniel mite.

Mr. Rierson says the new insect survey program should be particularly helpful to all agriculture in New Mexico. "We've just experienced one of the worst insect years in the history of our state. A reliable local pest forecasting service, such as we hope to eventually establish, will help to keep farmers and ranchers better posted on what to expect in the way of insects and thus reduce damage and loss of crops in New Mexico."

PILOT INJURED

SACRAMENTO — W. E. Weston, pilot of a crop dusting airplane, was injured seriously when his craft struck a telephone line two miles south of El Nido and crashed.



GEORGIA LEADERS—Two persons who are prominent in the Georgia program to increase public knowledge, acceptance and proper use of fertilizer and lime are Dr. Ralph L. Wehunt, extension agronomist, University of Georgia, and Dr. Irvin Wofford, representing the Georgia Plant Food Educational Society, Atlanta. An "action" program, rather than a "talking" program is planned, as depicted in the poster at the right. Groundwork has been laid for the program to begin in one of the six extension districts of the state, and county agents will play prominent roles in the program.

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

State control officials of fertilizers and pesticides met in Washington for their annual meetings. Paul T. Truitt, executive vice president of the National Plant Food Institute, made a plea for fertilizer consumption figures by materials and grades on a more uniform basis from all states. He suggested that such reports be made quarterly.

The pesticide control officials discussed tentative definitions for pesticides, defoliants and nematocides, as well as making a study of state laws in the light of the Miller amendment to the Food and Drug Act.

Stauffer Chemical Co. announced that its organic phosphate pesticide, Trithion, will be in large-scale production before next crop season. A multi-million-pound a year Trithion plant will be built near Henderson, Nevada, and it is expected to be in operation by February, 1958.

The National Plant Food Institute held a conference on chemical control problems at Washington, D.C. In charge of Dr. Vincent Sauchelli, NPFI scientist, the meeting heard discussions of modern methods of quality control in the manufacture of fertilizers.

A fertilizer conference held at Rutgers University, New Brunswick, N.J., heard discussions on the relationship between weather conditions and fertilizer use. The discussions indicated that if a plant is given a well balanced diet and a "full meal," it will be ready to grow fully when moisture conditions are correct.

J. T. Stevens and R. A. Lemler were named by the Nitrogen Division of Allied Chemical & Dye Corp. to sales positions.

A statistical article by Arnon L. Mehring, sponsored by the National Plant Food Institute, said that non-farm use of fertilizers amounted to about 10% of the total consumed in the U.S. At a conservative average price of $75 a ton, he said, the non-farm market comes to some $187.5 million a year, with some estimates going even higher.

The Western Agricultural Chemicals Assn. held its annual meeting at San Mateo, Cal., scheduling talks on weed control, nematodes, regulatory laws, and a program on what influences farmers to purchase and use pesticides. Ivor Burden, United Chemical Co., Richmond, Cal., was elected president of the group.

A report by USDA indicated that the soil bank is likely to exert a considerable influence on the kinds and numbers of insects in many parts of the country. Grasshoppers, particularly, will find in the reserved acreages, an increased amount of more favorable places for egg laying and a greater variety of desirable food plants. Other insects expected to increase in certain localities were listed as cutworms, wireworms, white grubs, Japanese beetles, European chafer, sod webworms, and corn flea beetles.

Alfred J. Dickinson, formerly vice president of Virginia-Carolina Chemical Corp., Richmond, Va., joined Freeport Sulphur Co. as vice president and sales manager, to succeed the late Roy B. Jones.

Southern Nitrogen Co. named Dallas Cantwell as general sales manager and F. R. MacCauley, controller.

Wilson & Geo. Meyer & Co. broke ground for a new office building and warehouse in Los Angeles. The new structure, when completed, will also house the Wilson Meyer Co., and other offices.

Talks by a banker, an educator, a fertilizer technologist and representatives from two other associations were featured at the eighth annual convention of the Pacific Northwest Plant Food Assn. in October. Some 250 fertilizer industry men were on hand at the meeting which was held at the Challenger Inn, Sun Valley, Idaho.

The California Ammonia Co. broke ground for its new 100-ton-a-day anhydrous ammonia plant, Oct. 12. The plant will cost about $4.8 million and construction is expected to be completed in October, 1958.

Three more states, Arkansas, Kentucky, and Mississippi, were added to the list of quarantined states because of the presence of the soybean cyst nematode.

The Shell Chemical Corp. nematode workship at St. Louis, brought out the fact that nematodes cause "many millions of dollars" loss to crops each year. Some 200 agriculturalists heard a panel of USDA and university scientists discuss control of these soil pests in the one-day meeting.

Irrigated croplands need a high rate of fertilization to get optimum returns from the added investment, the USDA stated. "Before a farmer invests in supplemental irrigation, he should be willing and able to use high rates of fertilizer," the department said.

The Beltwide Cotton Mechanization Conference held at Shreveport, La., was told that cotton growers should pay more attention to the amount and type of fertilizer they use. George E. Smith, University of Missouri soils expert, said that except for the cost of the fertilizer, it costs litlte more to bring a two-bale crop to harvest than one which produces only 300 lb. of lint.

Merck & Co. announced a reduced price on its product "Gibrel", a giberellin product. The price went from $10 a gram to $4 a gram. Improvements in the manufacturing process and increased demand were given as reasons for the price change.

G. D. Baerman was promoted to manager of the insecticide products department by Olin Mathieson Chemical Corp. He was formerly manager of field sales in the same department.

Treatment of crops and farm land with agricultural chemicals, especially by air, will probably increase rapidly in the next few years, continuing a trend that began at the end of World War II, the U.S. Department of Agriculture said in a special statement.

Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

A short, stocky man with a grey mustache, horsey face and big grey eyes plodded into the store of Schoenfeld & McGillicuddy Farm Supplies and came toward Oscar's desk. Beside the man trotted a long, black dachshund who was just as sorrowful looking as his master and whose eyes were just as large, too.

The man was Herman Kuhlmeyer, a bricklayer who was subject to arthritis. The disease sometimes kept him from working at his job. He was a thrifty man who kept a sizable garden back of his house at the edge of town, and raised vegetables and fruits.

"Oscar," Herman said sadly, "I got the statement with your note on it. Is that a nice way to treat a friendt?"

Oscar turned in his swivel chair. His face was cold. "Herman, you owe the money, don't you?"

"I know, I know," said the other patiently. "I thought I could pay up for the garden tractor and the fertilizer and the tools by this time. But I have had hard luck. The arthritis has bothered me so I couldn't work much. And my mother-in-law got sick and we had to pay her bills. I toldt you all that, Oscar, when we played cards at the Turnverein Hall last Friday."

"Did you?" Oscar asked absently. "Ach, look, Herman. Sure we are friends, but when you owe my company money and it is long overdue, it has to be paidt. You know how it is."

"But if I could have another 30 days, Oscar," pleaded Herman. "A builder owes me for some brick work I did in July. He's short of cash, but he has promised to pay me in three weeks. Then I can give you something."

"Herman," said Oscar, "is there anything wrong with the garden tractor?"

"No, it works fine."

"And the fertilizers and hand garden tools?"

"They are goot. I like them."

"Then you should pay for them," Oscar concluded. "You have an excuse, the next fellow has an excuse. If we let them all go, then Oscar and Pat have no money to pay salaries and other expenses. We must go to the bank and borrow money and pay interest. Herman, business is business."

Herman sighed again. "Well, Oscar, I can see it is no use to ask for more time on that bill. And when I played schafskopf with you, ach, I thought you was so friendly. So I will turn over to you my goot dachshund, Gesundheit, on account. She is worth $25, and she has a pedigree." Herman patted his sad dog's head, tears in his eyes.

"A dachshund!" Oscar said in alarm. "Ach, I do not want a dog. They cost too much to feed."

"You can sell her to someone," Herman said. "Lots of people come into this store. You can put her on display. Maybe you will get more than $25. Maybe you will fall in love with her yourself and keep her. Oscar, you don't know how much company a good dachshund can be. Better than a pipe."

"I don't smoke either," Oscar said sharply. "It costs too much." He looked at the dachshund whose sorrowful eyes were focused upon him pleadingly.

"Herman, you are foolish. Years ago feed and fertilizer men had to take eggs and stuff in trade now and then, but never dogs. Ach, you go try to sell her yourself."

Sadly Herman turned to go. Oscar's lips were set in a firm line. "That's the trouble with friends," he thought. "Always they wanted to trade you short some way. Never did they want to pay you real money for what they owed you. Well, he would not go to the Turnverein Hall to play schafskopf this Saturday night. He would stay home and read the Sears Roebuck catalog. Then nobody would have a chance to try to trade him some silly stuff on their store bill. Dogs! Ach!"

About an hour later, tall Pat McGillicuddy came breezing into the office and sat down at his desk. He took a sheet of paper and began writing an ad, studying some notes he had made on some old envelopes.

"Oscar," he said, "I've just been to Herman Kuhlmeyer's. He's had a wonderful garden. He told me he tried to turn in his dachshund Gesundheit on his bill and you turned him down."

Oscar grunted. "We want cash for fertilizer and tools and things. Dogs, eggs, chickens! Ach, we can't take them."

"Herman's a wonderful gardener. Told me all about his crops, and how the garden tractor helps him. I got a testimonial from him. He was just leaving when I drove up, so I took him home. That's how we visited so much. I'm allowing him $25 on his bill in payment for that testimonial."

"What!" Oscar swung around in his swivel chair. "You spend money like that?"

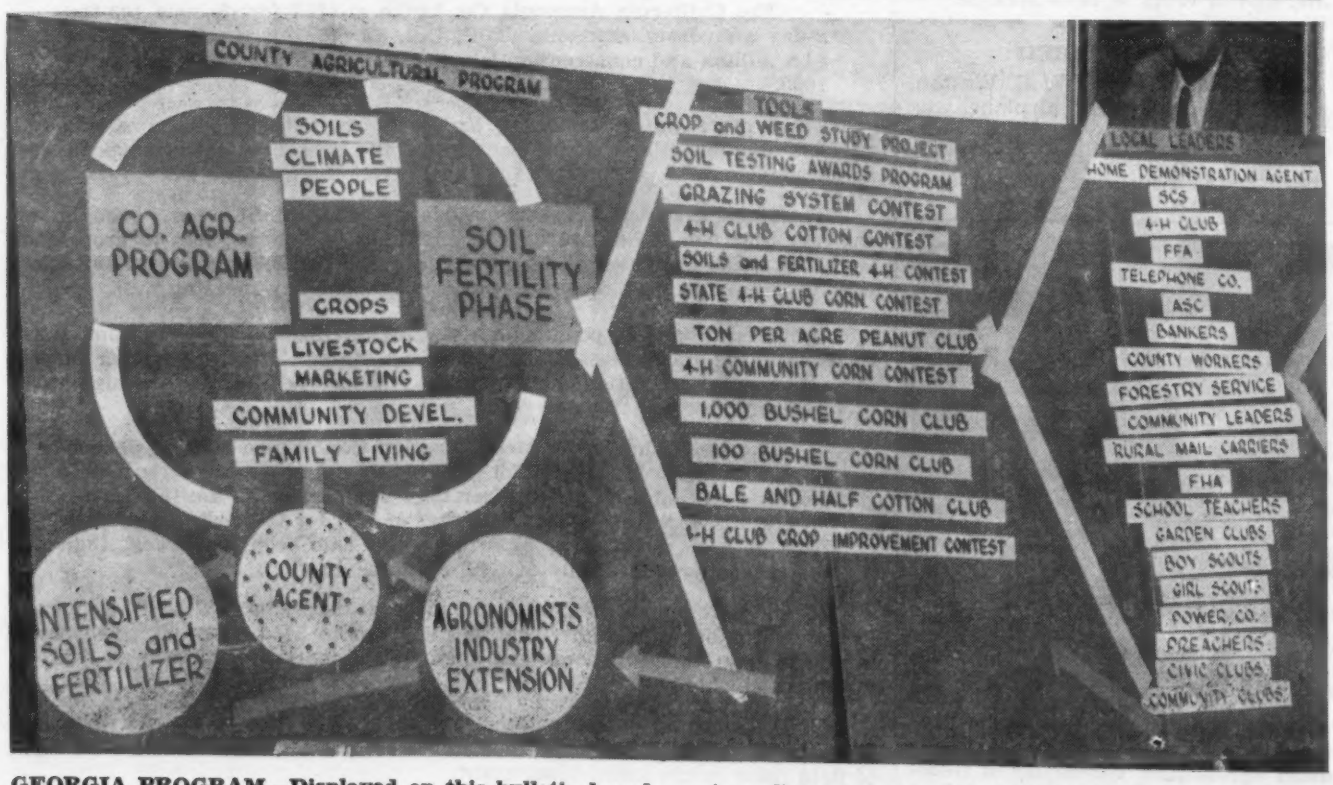
"Why not?" Pat asked levelly. "It's a darn good testimonial. It'll sell more garden tractors for us next spring. I'm going to run the ad now and stick up reprints around the office next spring."

"Ach, such foolishness," complained Oscar. "If you had let me do it we could have had the dachshund and the testimonial for $25. Now all you get is a testimonial for a $25 credit. You call that schmardt?"

Pat nodded contentedly. "Yes, I think so. Herman is going to brag to friends all winter about how well we treated him, and that our store is the place to buy. He's pleased; he's got a new lease on life on that bill he owes us. If we had taken in his beloved dachshund for $25 on account, everyone would think we are the kind of fellows who would squeeze blood out of a turnip. Fellows like that don't keep customers, Oscar."

Oscar bit his lip, his face white. He swung swiftly on his swivel chair to face his own desk. Angrily he picked up a booklet he was reading a great deal these days. It was entitled "Business Booms and Depressions Since 1775."

It was very clear he knew which way this business was headed—so long as he had a partner like Pat.



GEORGIA PROGRAM—Displayed on this bulletin board is a chart outline of the Georgia program to raise farm income by more efficient fertilizer and lime usage. The county is the central point of operation, as depicted at the left side. The tools by which the program will be carried out are listed in the center and on the right are the clubs and individuals who will be relied on to lead the program. The end result of the program, it is hoped, will be to increase public knowledge, acceptance and proper use of fertilizer and lime.

Herbicides Found Useful in Keeping Down Texas Brush

SAN ANGELO, TEXAS—A new use for herbicides has been created in several parts of West Texas. It is used to keep down a new growth of brush after it has been temporarily eradicated by root plowing.

In Glasscock County, rancher Steve Currie is root plowing 4,000 acres of brush infested pasture, and eventually hopes to clean out the entire 9,000 acres of worthless mesquite bushes.

The plowing consists of a crawler type tractor which pulls a heavy blade several inches below the surface. The brush is killed, but a small percentage of it comes back each year.

"The plowing is not a complete control measure," said Mr. Currie, "but as the new sprouts come out during the growing season, I spray them with some herbicide like 2,4,5-T. After two or three years, the grass should make enough turf to keep the brush from reappearing."

The first root plowed pastures soon brushed over again, and many farmers became doubtful of the method. Now with herbicides keeping the new growth down, dozens of ranchers in West Texas are again root plowing for brush control.

Fertilizer, Cover Crop Boost Cotton Yields On Deep Plowed Soil

MANGUM, OKLA.—A 60% increase in yields of continuous cotton on deep plowed sandy land was obtained through use of commercial fertilizer and a winter cover crop, in a test at the Oklahoma Sandy Land Research Station near here.

Speaking at the station's recent field day, Tom Cunningham, superintendent, said that the top yield in the test was 1,294 lb. of snapped cotton per acre annually. The cotton was grown continuously for three years. The deep plowed land was fertilized with 100 lb. of 13-39-0 commercial fertilizer per acre annually, then was planted to rye winter cover crop. The cotton, following the rye, was fertilized with 100 lb. of 12-24-12 commercial fertilizer per acre annually.

The next best yield was 990 lb. of snapped cotton per acre annually. The cotton, grown continuously for five years, was fertilized with 100 lb. of 12-24-12 commercial fertilizer per acre annually, as above. However, the soil was not protected by a fertilized winter cover crop.

The low yield, 798 lb. of snapped cotton per acre annually for a five-year average, was obtained when cotton was grown continuously without soil treatment of any kind.

Mr. Cunningham pointed out that although deep plowing frequently stimulates yields, the plant food that is brought near the surface of the soil usually is exhausted in about four years. The physical benefits, occasioned by increasing the clay content of the top soil, will last much longer if the soil is managed properly.

Dallas Tank Makes Executive Promotions

DALLAS—Several executive promotions in Dallas Tank Company, Inc., Dallas, Texas have been announced by Samuel B. Ballen, chairman of the board. C. Edwin Ponkey, who joined the company in August as general manager and assistant to the president, has been elected president. Henri Jennings has been promoted to vice president of LPG sales and Allen Peairs has been elected vice president of custom sales. George Cook, formerly of Clovis, N.M., has also joined Dallas Tank as factory manager of its Dallas plant.

FARM SERVICE DATA

Extension Station Reports

The best way to raise the phosphorus fertility level of Virginia soils has been investigated for several years by scientists at Virginia Polytechnic Institute Agricultural Experiment Station, and they have some preliminary conclusions.

They have tried superphosphate as the only source of phosphorus, rock phosphate as the only source and combinations of the two. The tests are located on Wellston loam near Blacksburg. Cecil sandy loam in Campbell County, and Davidson clay loam at Orange. The crops grown are corn, wheat and red clover, in a three-year rotation. Another test, on Groseclose silt loam near Blacksburg, compares the two fertilizers alone and in combination on alfalfa as continuous hay.

Further tests are planned, but so far:

All crops at the locations have responded to both rock phosphate and superphosphate except when lack of rainfall limited yields severely.

Generally, where the crop responded to one fertilizer it also responded to the other. However, on corn on Davidson clay loam, neither material was very effective when used separately but some combinations of the two gave sizeable yield increases, particularly 125 lb. per acre of superphosphate in combination with either 1,000 or 2,000 lb. per acre of rock phosphate.

Wellston loam has been the most responsive soil to rock phosphate, Davidson clay loam the least responsive and Cecil sandy loam intermediate.

A combination of the two fertilizers seemed to result in greater crop response in relation to the cost than either alone.

One ton of rock phosphate (applied once in six years) produced yield increases about equal to those produced by 100, 175 and 280 lb. per acre of superphosphate applied annually, in corn, wheat and red clover, respectively, on Wellston loam.

One ton of rock phosphate (once in six years) was about equal to 100 lb. per acre of superphosphate applied annually for wheat on Cecil sandy loam. Corn yields produced by a ton of rock phosphate on this soil exceeded the equivalent of 250 tons per acre of superphosphate.

One ton of rock phosphate (once in six years) was about equal to 200 lb. per acre of superphosphate applied annually for alfalfa on Groseclose silt loam.

W. W. Moschler, assistant agronomist at the station, explains that many Virginia soils are inherently poor in native phosphorus, and a better way of raising the phosphorus content without decreasing yields would contribute to their value.

★

Imported fire ants are throwing up their battle lines of unsightly mounds —ominous signs of a tougher fight ahead for farmers throughout Alabama.

W. A. Ruffin, Alabama Polytechnic Institute extension entomologist, warns that the ants will attack with renewed vigor and greater strength this winter than ever before. Last year the pests did untold damage to pasture land and machinery.

During summer all remained quiet on the fire ant front, but recently a steady stream of reports of ant activity has been heard. Mr. Ruffin explained that the recent heavy rains are forcing ants out of the soil where they bedded down for the summer.

The situation has become serious enough for Mr. Ruffin to recommend that farmers planting small grains or winter cover crops use insecticide-fertilizer mixtures containing chlordane, dieldrin or heptachlor to kill the ants. The mixture should be disked well into the soil before planting.

The entomologist advises farmers to hold up on treating established pastures until after a killing frost. One treatment will last three to four years, he said. Mr. Ruffin said that imported fire ants have never been a problem on cotton land where the grower has followed a dusting or spraying program to control boll weevils and other pests.

★

Two applications of 2,4-D per year for two to four years are needed to control wild garlic or "wild onion" in permanent pastures, according to B. C. Turner, Clemson extension conservationist. He says one application should be made in the spring and one in the fall.

He explains that two sprayings each year are necessary. One spraying will kill the growing plant, but it will not kill the dormant bulblets at the base of the plant. These bulblets will germinate as soon as there is sufficient moisture in the soil and will grow off the next season. So it is necessary to continue the applications until the plants from these bulblets are killed.

The application in the spring should be made as early as possible but not until the temperature is 65° F. or above. The fall application should be made after the "wild onions" have begun their growth and before the temperature gets below 65°. It usually takes spring and fall applications for two to four years to bring the pest under control, and occasional applications probably will be necessary in after years to maintain control, Mr. Turner says.

★

1958 is going to be "Weed Control Year in Mississippi," says W. R. Thompson, pasture specialist of the Mississippi Agricultural Extension Service.

"If I were you, I'd start in the fall and spray all weeds this fall and early winter that need spraying," he advises farmers. "It would be best to wait until there is a good stand of dock before spraying. Generally this is in November or December. Even though you see a lot of dock now, there is more to come."

Wild onions are also going to be a big problem this year as they will get an early start due to the available moisture, Mr. Thompson said.

Sales grow better, too, on Versenol Iron Chelate

Many of your fertilizer customers already know the green, growing difference Versenol® Iron Chelate makes. They've discovered it themselves, by mixing Versenol with their regular fertilizers.

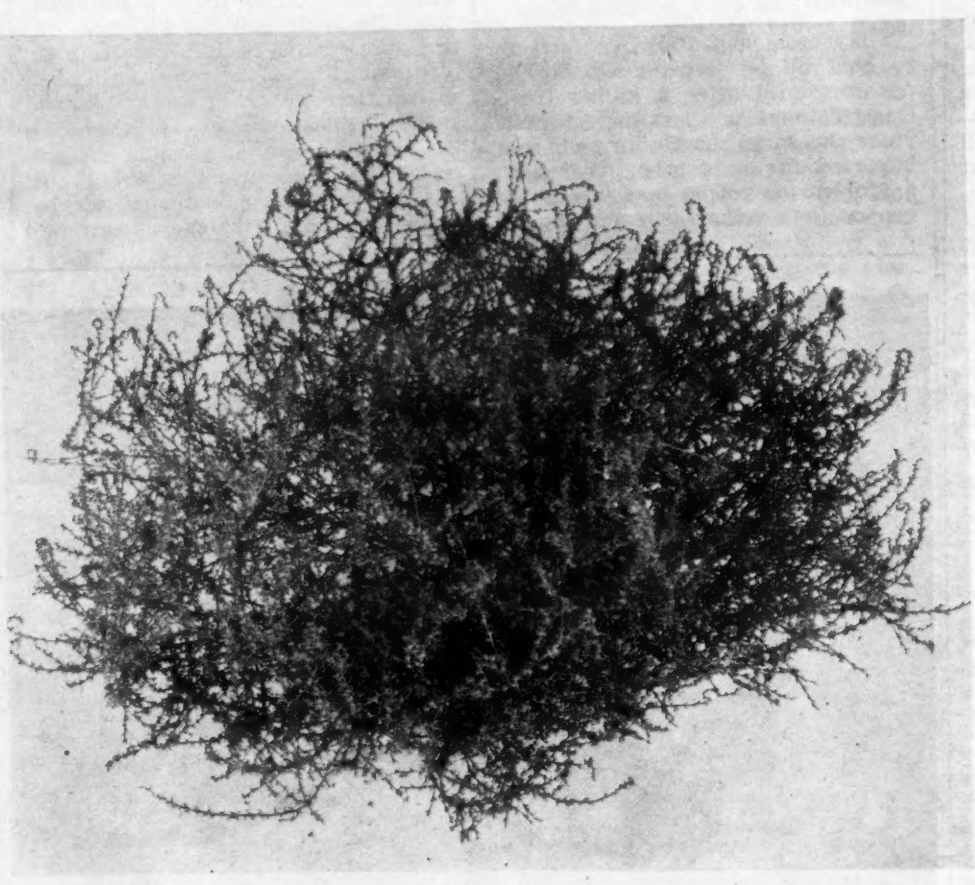
Now you can put your specialty fertilizers on a preferred basis with these customers . . . by including Versenol right in your formula.

Just small amounts of Versenol can build a big preference for your brand with citrus growers, truck gardeners, nurserymen, commercial flower growers and home gardeners. Customers are quick to notice how Versenol helps plants turn and stay a healthy, rich green . . . improves growth . . . enhances bloom.

It's simple to give your customers the extra convenience of having this extra iron for new growing power right in their fertilizer. Dow will be glad to show you how easily you can include Versenol Iron Chelate in liquid fertilizers, how you can mix Versenol Iron Chelate on Vermiculite with dry fertilizers. Get latest literature and complete information by writing to: THE DOW CHEMICAL COMPANY, Agricultural Chemical Sales Dept., Midland, Michigan.

YOU CAN DEPEND ON DOW

WEED OF THE WEEK



Russian Thistle

General Appearance

Russian Thistle, otherwise known as "Russian cactus" and "tumbleweed," is found largely in the Great Plains states. In the fall of the year, the plants may be about 30 inches tall, with numerous branches arranged so that the general shape is somewhat spherical.

Growth of Thistle

Germination of the seed seems to occur normally early in spring, with seedlings appearing around April 30 (in North Dakota). Under favorable conditions, germination may continue later in the season, with seedlings having appeared as late as the middle of June. Early leaves become quite long, but the later ones are somewhat shorter. By the first of June, the normal plants in the open are about 4 in. tall and the lowest branches have just begun to develop. In later growth and maturity, the lower branches spread out nearly horizontally, or are bent somewhat downward to rest on the ground. Terminal portions rise as much as is permitted by the mass of upper branches. The lower secondary branches often become nearly as large as the main stem and usually are somewhat longer. The very lowest branches, however, may be dwarfed, presumably due to shading by the upper branches.

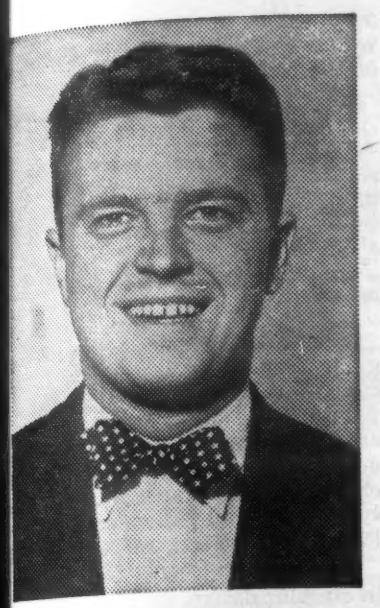
Propagation

The Russian thistle is an annual plant, reproducing by seeds on both cultivated land and waste places, chiefly in dry regions of the U.S. and Canada. Although early leaves of the plant are succulent, later ones are stiff and end in spines. Late in the season, the whole plant becomes hard and woody, breaks loose from the soil, and is blown about as a "tumbleweed." This action scatters its seeds over a broad area.

Losses from Thistle

The chief economic loss charged to these plants lies in their use of moisture which could better be utilized in producing crops. The thistle also causes nuisance damage to fence rows and to fences themselves by piling up against them. The most effective manner of control, according to experiment stations in the states where the weed occurs, is through cultural means.

*Illustration of Russian Thistle through courtesy of U.S. Department of Agriculture, Beltsville, Md.



Richard O. Hartmann

ichard O. Hartmann New Collier Post

LOS ANGELES—Richard O. Hartmann has been appointed district ales manager in the southern Cali- rnia coastal area for the Collier arbon and Chemical Corp. Accord- g to R. H. McGough, manager of gricultural chemical sales, Mr. Hart- ann will assume responsibilities of e company's Brea Brand fertilizer arketing activities in this area.

Mr. Hartmann succeeeds Thomas . Boland who returned recently to e Hawaiian Islands to take over arketing activities there. Mr. Hart- ann joined Brea Chemicals, Inc., ow Chemical Division of the Collier arbon and Chemical Corp., in 1956 s agricultural technical representa- ve in the Southern California desert egion. He is a graduate of Michigan tate University, where he received bachelor of science degree in soil cience.

tauffer Names Salesman or Midwestern States

NEW YORK—Weldon L. Wadleigh as joined Stauffer Chemical Co. as a alesman for the agricultural division the Midwest, covering Illinois and ndiana.

A graduate of Illinois Wesleyan niversity, Mr. Wadleigh served for time as editor of four weekly news- apers and in 1942 enlisted in the U.S. Navy. After five years of service in- luding duty in the South Pacific, he as discharged as chief pharmacist's ate. During the next ten years he ained wide experience in the agricul- ural chemical field with a pesticide oncern and as a member of hybrid orn organizations.

Mr. Wadleigh resides in Kankakee, Ill., where he is active in civic affairs. He is also well known throughout Illinois as a guest speaker before schools nd adult organizations on the sub- ect of agricultural chemicals.

efoliant Sales Good

LAMESA, TEXAS—The sale of hemicals took a sudden rise in West exas recently with the coming of he autumn rains. Farmers began ushing the season by defoliating cot- on.

Much of the cotton is tall and bushy his year, and provide so much shade hat the bolls will not open. By praying the plants with a defoliant, he leaves die within a few days and rop off. Most of the work has been one by airplanes, since the plants re too tall to allow the use of trac- ors. The cost has been averaging bout $4.25 an acre.

GLF ELECTS DIRECTORS

SYRACUSE, N.Y.—Stockholders of Cooperative GLF Exchange elected even directors, all incumbents, dur- ng the co-op's 37th annual stockhold- rs meeting here recently. Over 117,- 00 GLF stockholders in New York, New Jersey, and northern Pennsyl- ania were eligible to vote.

SYSTEMIC INSECTICIDE

(Continued from page 1)

now manufactured by the Dow Chemical Co.

The cattle industry will receive the product in a limited area this fall in the midwestern states, USDA says. This area will include certain sections of Iowa, Nebraska, South Dakota and Wyoming.

USDA officials say that the product carries the approval of the Food and Drug Administration.

The use of the product represents an oral administration of a pill containing the pesticidal chemical—or as a dose in the form of a dose syringe rather than a pill.

It is said that the product circulates in the body fluids of the animal and destroys grubs which have burrowed into the flesh. It is believed to be the first systemic insecticide that has proved capable of destroying grubs in an animal's body.

Because this insecticide will be used this fall for the first time under normal livestock-raising conditions, federal, state and industry entomologists will watch the progress of its use carefully.

Experimental tests made thus far indicate that residues of this systemic insecticide are not long-lasting in the flesh of treated animals. Research has found that only 50 parts of the chemical present per million parts of fats in slaughtered animals remain three days after treatment. Fourteen days later the pesticidal residue has fallen to seven parts per million and other tests indicate that the fat is free from all residue of the product within 60 days.

In making public the information, USDA issues the following precautions in the use of ET-57:

(1) Growers to whom the systemic insecticide will be available are advised that treatments must not be made later than 60 days before slaughter of the animals.

(2) Lactating cows should not be treated, in order to avoid residues of the pesticide in milk.

(3) Only one treatment is required. Cattlemen are cautioned to use ET-57 strictly according to recommended dosages, methods, and precautions indicated on the package label. A single treatment of about 1 oz. of the chemical is required for a 600-lb. animal. Each bolus has a total weight of 1.32 oz., of which 40% (about half an ounce) is the pesticidal chemical. Accordingly, two such boluses would be required per animal. Overdoses can cause toxic symptoms in cattle.

(4) It is recommended that the compound be administered to cattle after the adult-heel-fly season ends but before the grubs show up in the backs of cattle. In all except southern sections of the U.S., treatments can be made from September through December. Treated cattle should have free access to feed and water.

PENICK SPONSORS WARFARIN CONTEST

$1,000.00 for Best Dealer Display

PLUS

2 PRIZES OF $500.00 EACH FOR DISTRIBUTORS' SALESMEN

This unusual contest is open to all dealers where state laws permit. It is designed to stimulate dealers' imagination in better "point-of-sale" merchandising and to simplify consumer purchasing of Warfarin, world's leading rat-killer!

Here are the simple rules:

1. Set up a store or window display with WARFARIN. No other rodenticide is to be included.
2. Keep this display up for two consecutive weeks, anytime between Nov. 1 and Dec. 15, 1957.
3. PHOTOGRAPH THE DISPLAY and mail the photograph along with your completed entry blank to:
   WARFARIN CONTEST
   S. B. Penick & Company
   50 Church Street
   New York 8, New York
4. Contest is subject to all federal, state and local regulations.
5. Entries will be judged for originality, attention value and merchandising effectiveness. In the event of ties, duplicate prizes will be awarded. The decision of the judges is final.
6. All entries become the property of S. B. Penick & Company. None will be returned.
7. All entries must be received by December 17, 1957.
8. Winners will be notified by telegram.
9. Obtain entry blanks from your distributor or write Warfarin Contest, S. B. Penick & Company.

"The World's Most-Wanted Killers"

Di-Sodium Methyl Arsonate • Dethmor® Warfarin • Pro-Noxfish® • Sulfoxide®

Agricultural Chemical and Insecticide Division

S. B. PENICK & COMPANY 50 CHURCH ST., NEW YORK 8

PENICK

735 W. DIVISION ST., CHICAGO 10

Industry Patents and Trademarks

2,810,267

Recovery of Sulfur Dioxide from Gases and Production of Ammonium Sulfate. Patent issued Oct. 22, 1957, to Henry F. Johnstone, Urbana, and William E. West, Jr., Champaign, Ill., assignors to Texas Gulf Sulphur Co., New York. A process for the recovery of sulfur dioxide from waste gases wherein aqueous ammoniacal solution is directed into contact with said gases, sulfur dioxide is absorbed by said solution by reaction with ammonia contained therein to form ammonium sulfite compound dissolved in said solution and effluent solution is separated from said gases which comprises the steps of partially oxidizing said ammonium sulfite compound in said effluent solution to ammonium sulfate and sulfur dioxide with elemental oxygen by directing an oxygen-containing gas into contact with said effluent solution in a first zone, directing solution containing the residual unoxidized ammonium sulfite compound and ammonium sulfate from said first zone to a second zone, oxidizing additional ammonium sulfite compound contained in said solution to ammonium sulfate and sulfur dioxide with elemental oxygen by directing oxygen-containing gas into contact with the solution in said second zone, directing residual solution containing ammonium sulfate and dissolved sulfur dioxide from said second zone to a third zone, stripping sulfur dioxide from solution in said third zone by passage of oxygen-containing gas therethrough, removing the residual ammonium sulfate solution from said third zone, directing the oxygen-containing gas contacted with solution in said third zone from said solution so as to be comprised in said oxygen-containing gas directed into contact with the solution in said second zone, directing the oxygen-containing gas contacted with the solution in said first zone from said solution so as to be comprised in the oxygen-containing gas directed into contact with solution in said second zone, and after said oxygen-containing gas has been contacted with solution in said second zone directing gaseous residue comprising said sulfur dioxide from said second zone.

2,810,756

Manufacture of Organic Phosphorus Compound Having Insecticidal Properties. Patent issued Oct. 22, 1957, to Max Pianka, Wheathampstead, and Victor Horace Chambers, Luton, England, assignors to the Murphy Chemical Co., Ltd., St. Albans, England. In the process for the manufacture of octamethyl pyrophosphoramide involving heating two molecular portions of tetramethyl phosphorodiamidic chloride, in the presence of an alkali metal hydroxide as condensing agent, to form octamethyl pyrophosphoramide and water as reaction products in a single step, the improvement that involves removing the water of reaction during the course of the condensation.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act a fee of $25 must accompany each notice of opposition.

Pennsalt Chemicals, within rectangular frame, for insecticides, fungicides, herbicides, defoliants, desiccants, seed disinfectants, ammonia salts, halogens, inorganic acids, and a number of industrial chemicals. Filed Jan. 9, 1957, by Pennsylvania Salt Manufacturing Co., Philadelphia. First use Nov. 28, 1955.

Acme Quality, hand lettered, with in circular design, for insecticides and fungicides. Filed Jan. 30, 1957, by Acme Quality Paints, Inc., Detroit, Mich. First use Nov. 21, 1906.

Rooticate, in capital letters, for chemicals for root and fungus control. Filed March 29, 1957, by Faesy & Besthoff, Inc., New York. First use in March, 1951.

Phostex, for insecticides, herbicides and fungicides. Filed April 17, 1957, by Food Machinery & Chemical Corp., New York. First use July 31, 1956.

ABC, in capital letters, for plant food and fertilizer. Filed March 27, 1957, by O. M. Scott & Sons Co., Marysville, Ohio. First use Jan. 25, 1957.

Garba-Rid, for bacterial culture useful in converting garbage to organic fertilizer. Filed March 28, 1957, by Circle Research Laboratories, Inc., Glen Ridge, N.J. First use March 15, 1957.

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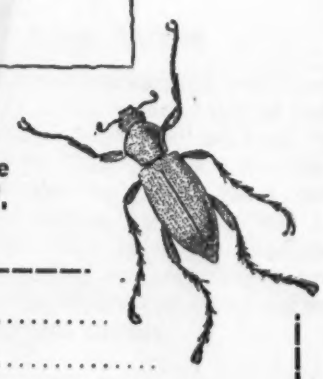

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Nebraska Loses 16,000 Acres a Year to Non-Agricultural Projects

LINCOLN, NEB.—Some 16,000 acres of Nebraska farm land has been taken out of farming each year since 1942, according to the soil conservation service. However, it is indicated that the situation is "not alarming," because it has not yet had a harmful effect on the state.

Of an estimated 21,145,197 acres of good crop land in Nebraska, the agency said, about 755,000 acres was withdrawn from agricultural use prior to 1942 and since then 234,000 acres has been converted to other uses. Highways, airports and industry have taken much of this land.

Loss of farm land has created serious problems in other parts of the country, the agency said, mentioning the California bay area, the mid-Atlantic area and Indiana, Ohio, Pennsylvania, New York, Michigan and southern New England.

Summing up the national picture, Soil Conservation Administrator Donald A. Williams, said:

"Urbanization in the broader sense of good land taken out of agricultural production has been jumping across farm fence lines too fast and far to be ignored by rural landowners or anyone else involved in the nation's agricultural economy."

GNATS TO US

Croplife recently reported (page 2, Oct. 14) that the Lake County (Cal.) Mosquito Abatement District poured 20,000 gal. of DDT into Clear Lake in an attempt to eliminate gnats. A good story, but not accurate, says C. R. Stull, Agricultural & Sanitary Chemicals Dept., Rohm & Haas Co., Philadelphia. Mr. Stull reports that the chemical used was not DDT but was Rhothane (DDD), as manufactured by Rohm & Haas Co.

Value of Research, Farm Chemicals Stressed at Florida Fruit Meeting

MIAMI BEACH, FLA. — The annual convention of the Florida Fruit & Vegetable Assn. was attended by 500 Florida growers and allied tradesmen including seedsmen, packers, processors, transportation men, and suppliers of farm materials and equipment.

The convention was at the Fontainebleau Hotel Oct. 9-11 and the theme—"Progress Through Research" was carried out through the program.

Roy Vandegrift, Jr., Pahokee, Fla., is the new president of the association.

The keynote address "Research—Doorway to the Future," was delivered by Dr. Earl L. Butz, dean of agriculture, Purdue University. Dr. Butz praised Florida for its progressive work in agricultural research. He said that during the past 30 years Florida acreage in vegetables, melons, strawberries and potatoes has increased 400% to around 400,000 acres, and that the farm value of these crops has increased to about $150 million. During the same period, he said the production of avocadoes in Florida has increased about 25 times, and production of limes 60 times.

R. Vandegrift, Jr.

After pointing out that the geographic frontier for farming is practically gone in this country, Dr. Butz said that the industry is now on the threshold of its most challenging and prosperous decade through a new frontier of applied science.

Dr. Butz said that farm output is up 50% from 25 years ago, with one-third as many workers. He said that in 1830 the farmer had not changed his methods appreciably for 1800 years and that he was able to produce only enough for himself and three other people. Production had increased in 1930 so that the farmer could feed himself and nine others, and the present day farmer feeds himself and 19 others. According to Dr. Butz, changes in the next five years will equal those of a lifetime in the preceding generation.

With a word of caution for the future, Dr. Butz urged the farmers to keep government interference into private enterprise at a minimum.

He said that government price supports often place a ceiling on opportunity, and the government, when removing the right to fail, ultimately removes the right for more than mediocre success. The cotton, wheat, tobacco and rice farmers were cited as examples where acreage is limited, and the only way a young man can get acreage to grow these products is to inherit it from his father, buy it from a retiring farmer, or marry the daughter of a retiring farmer.

Dr. Butz also told the farmers to include marketing research because of the intense competition for the consumer's dollar. He said other commodities are being offered for a small down payment, and that these down payment and pay later methods often mean that less money will be spent for food while payments are being made for other goods.

Tom Beasley, speaker designate for the Florida House of Representatives, said that Florida has allocated $35 million for agriculture this year. The state funds will be used for such things as the State Plant Board, the agricultural experiment stations, the agricultural extension services, and for fighting the nematodes, fire ants, white fringe beetle, screw worm and other pests.

Dr. J. R. Beckenbach, director, Agricultural Experiment Stations, University of Florida, spoke on fertilizers, saying that this had been the dominant factor in Florida agriculture increases during the past 25 years. He said that there is still much to be done in research regarding the possible value of enzymes and hormones. He also said there is a need for more information on the metabolic process in plant growth and on the relations of minor elements to plant life.

Dr. Beckenbach said that research facilities always reap profits far in excess of their cost. He told how a recent development in equipment for the sampling of commercial fertilizers had solved a problem where many tests had indicated that nitrogen content did not come up to the formula guaranteed by manufacturers. It was found that the old style sampling tube was pushing aside the nitrogen pellets found in newer fertilizers, and picking up finer substances.

Richard J. Roth, assistant secretary and manager, Crop-Hail Insurance Actuarial Assn., spoke on weather sciences and agriculture. He pointed out that agricultural weather forecasts are often lacking in information needed specifically for certain purposes. "For example," he said, "when a temperature forecast is given, the farmer needs to know not only the general temperature, but also needs to know the temperature at ground level, maybe a few inches above the ground, soil temperature, and even a few inches below the soil."

Mr. Roth said that with funds for research, long range forecasts and seasonal forecasts may become possible in the future, but at the present time such work is strictly in the experimental stage. Results of cloud seeding were also said to be uncertain as to degree of effectiveness. All weather costs, including aviation forecasts, were said to total about 20¢ per year per person. The value of research was pointed out in an example where each $1 spent on weather research had resulted in a $100 improvement in yield for tobacco farmers.

On the final day of the convention, there was a panel discussion with members who were representative of agricultural conditions throughout this country and in Cuba and Mexico. Clinton Cook, chief, Commodity Analysis Branch, Fruit & Vegetable Division, Foreign Agricultural Service, USDA, gave a forecast on crop conditions in Mexico, saying that the east coast district, principally producers of tomatoes, intended to plant about 15,000 acres, but that there would probably not be more than half that amount. West Coast farming was also predicted to be 20% less than the intended planting of 37,000 acres, because of the water shortage. However, Mr. Cook said that Mexico has about two million acres of excellent soil and has prospects for a good future with adequate water and marketing facilities.

Jose Costa, grower from Cuba, said that many Florida farmers are obtaining good results with vine-ripened tomatoes in Cuba. He estimated 2,000 acres to be planted this year. Most marketing is done by ferry transportation from Havana to West Palm Beach, Florida.

G. B. Jackson, vice president of Deardorff-Jackson Co., Los Angeles, told how research has kept the celery growers in business. He said the development of a new celery variety, 52-70, has resulted in a profit this year for the first time in four years. He also encouraged further research in methods of packaging, saying that they had had excellent results with 50 pound cartons of potatoes instead of burlap bags. He said the extra cost is more than offset by savings in damages and in better marketing acceptance.

Paul B. Ruetenik, president of the Vegetable Growers Association of America, spoke on tomato growing in greenhouses. He said that the greenhouse ratio is about seven to one to field grown, or about 9,000 tomato plants to each acre of greenhouse. He also told of recent successful experiments in moving a half-acre greenhouse over growing tomatoes.

Sam Tayloe, general manager of Rio Farms in Texas, said that Texas, like Florida, is working on water conservation. The governor of Texas has just recommended a $100 million appropriation for water conservation. Florida has already spent $50 million on a $300 million project which will increase available agricultural acreage in the Florida Everglades.

Five Florida men were given awards for their contribution to research in the agricultural field, and the Florida Farm Bureau was presented with an award for distinguished service to Florida agriculture.

In addition to Mr. Vandegrift, the new president, the other officials elected are Rudolph Mattson, Fort Pierce, Fla., vice president; and Joffre C. David, Orlando, Fla., who was reelected secretary-treasurer.

FLORIDA CONVENTION—Members of the farm chemical industry were well represented at the recent convention of the Florida Fruit & Vegetable Assn. Among those present were Mr. and Mrs. W. E. Zimmerman (left) shown with Earl Adams, Kilgore Seed Co., West Palm Beach, Fla. Mr. Zimmerman is with Velsicol Chemical Corp.

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FERTILIZER SAFETY MEETING

(Continued from page 4)

ammonia if vaporized in a 10 x 10 room would be quickly fatal.

"A second hazard is the liquid expansion as the temperature is raised. Comparing ammonia with water, and taking one cubic foot of each material at zero temperature, there are two-tenths of one per cent expansion of the water up to room temperature but 10% expansion in volume of the liquid ammonia.

"Going to a temperature of 140° F., which is considered to be the maximum reached in direct sunlight, water will have expanded by 2% and ammonia by 20%. Increasing the temperature to 270° as might occur with steam heated equipment, the water has expanded by a total of 7% while ammonia has almost tripled in volume. This is the expansion of the liquid not the gas. The pressures developed by liquid expansion are entirely different in magnitude.

"It takes almost 10,000 pounds or five tons per square inch to cause a ten per cent change in liquid volume. Because ordinary ammonia cylinders are hydrostatically tested at 700 lb. it is always necessary to leave sufficient outage or room for liquid expansion when filling a vessel with liquid ammonia," Mr. Anderson reminded.

"The common filling density leaves 12 per cent of the space empty at room temperature, but due to expansion the cylinder will be completely filled with liquid at 145° F. Filling densities commonly refer to the weight of ammonia over the weight of water, which would completely fill the cylinder. Maximum filling density is set by ICC at 54 per cent for the usual cylinder. However since water is a heavier liquid, a cylinder which has 54 lb. ammonia and which could hold 100 lb. water will actually be 88% filled at 65° F."

That cylinders of ammonia in a plant fire are particularly hazardous was emphasized by the speaker. "Because of the absence of a relief valve, it is obvious that any ammonia cylinder in a plant fire is bound to rupture and discharge its contents into the room. It is also obvious that cylinders of ammonia should never be warmed directly by water bath, steam or flame. For the same reason they should not be stored near sources of heat or near potential sources of heat, such as highly flammable substances.

"A maximum temperature recommended by the Compressed Gas Association for any cylinder is 125° F. This point cannot be stressed too much because there is a tendency on the part of the user to increase the flow of gas by applying heat to a cylinder. Under ordinary conditions, a cylinder will give a maximum of 50 cubic feet per hour since heat must flow in through the walls in order to vaporize the liquid inside."

Mr. Anderson said that poisonings from ammonia are rare events but accidents from breaking lines or other similar events do cause injury. He recalled one accident caused when an employee kicked a control lever to shut it off and fractured the connection. "Another accident occurred when cleaning an oil separator without relieving ammonia pressure from that particular line. Again, dropping a load broke a half inch pipe, resulting in one death. Dropping a cylinder from a truck to the dock also caused a death when a cylinder ruptured."

One incident occurred in salvaging some scrap pipe in a yard, he reported. "This pipe had been taken from the ammonia refrigeration system 1 years before and was thrown in the scrap pile to salvage the valves when needed. When taking the valve off workers discovered that the section of pipe between two valves had filled with liquid ammonia during this 1 year period. But they discovered too late, and a temporary eye injury resulted.

"Several years ago in New York an employee was killed while cleaning an ammonia tank, when the valve leaked and a blank inserted in the line failed."

J. H. Foulger, M.D., director of medical research, E. I. du Pont de Nemours & Co., Wilmington, Del., told the group that a demand for the unattainable goal of absolute safety can result in a retreat from reality and a "stultifying inactivity and the drying up of all sources of new knowledge and all social progress."

His topic, "Safety—A Retreat or a Challenge," brought out a number of points showing the strange quirks of the public mind when it comes to considerations of health and safety. He reminded that public announcement of some 40,000 persons being killed in U.S. highway accidents brought hardly a ripple of comment whereas at about the same time a pathologist speaking in a meeting in Italy said that some chemicals used to process or package foods might cause cancer. Although the speaker offered no proof of his purely speculative statement, his remarks were picked up by the press and magnified to the extent that the repercussions are still being heard in Congressional Committee hearings on new food laws.

Dr. Foulger cited the two attitudes as being irreconcilable, and declared that they form a "pattern of schizophrenia in which behavior is completely disassociated from reality." He said that just as a person suffering from this condition may do great harm to himself and to others, so can a populace harm itself greatly if it willingly ignores facts and bases its performance upon pure speculation.

The unattainability of "absolute safety" was brought out strongly by Dr. Foulger. Speculators who raise fears as to the integrity of our food supply do so in the name of "safety" and "public health," he said, and thereby demand that advances in food technology should be stopped unless shown to be "absolutely without harm" to the health of a single individual.

"On the surface, this appears to be an admirable demand," Dr. Foulger said, "but analysis leads to an impossible situation. No human activity can be guaranteed to be absolutely harmless. One cannot be sure that upon arising from bed after a sound sleep, that he may not suffer circulatory collapse, because during sleep the muscles have relaxed and cannot suddenly adjust themselves to the hydrostatic forces involved in moving from the horizontal to the vertical position, and so cannot assist the flow of blood to the heart.

"I cannot guarantee, as I step out of my doorway, that a roof tile

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osened by wind or rain, will not fall my head.

"I cannot guarantee that my neighr's dog, usually very friendly, will t suddenly become aggressive.

"Guaranteed, absolute safety is ncompatible with any conceivable ctivity. The demand for guaranteed safety is prohibitive of any adancement in either the arts or the iences. Safety has no meaning if ivorced from activity."

The physician said that contempt, exemplified in the public apathy ward traffic deaths, and fear as incated in unwarranted reaction to proved suggestions that chemicals food might be harmful, are both emies of safety. Being safe, he said, the practical certainty that no rm to health will result from a ven activity. He underlined the rm "practical certainty" as opposed "absolute certainty."

One cannot separate the words afe" and "safety" from action, he aintained. But in taking action, one ust be sure it is orderly, rather than nicky action induced by fear, or e careless, nonchalant action acmpanying contempt.

Knowledge is the mainstay of safe-, Dr. Foulger declared. "Safety oked at from this standpoint offers challenge to all of us; a challenge acquire all the knowledge we can bout our operations and their possile hazards; a challenge to devise fer ways of attaining our ends; or etter protective procedures or deices when we must use hazardous perations or materials," he concluded.

In his talk on "Reducing the lazards of Using Nitrogen Solutions nd Acids," Elmer Perrine, technical epresentative of the Nitrogen Divion, Allied Chemical & Dye Corp., lew York, emphasized the fact that arelessness can be costly both from he standpoints of safety and economy f production.

Mr. Perrine pointed out that in the use of sulfuric and phosphoric acids in the granulation of fertilizers, increased alertness is required to cope with the inherent hazards involved. "Often, through lack of understanding of principles or poor maintenance, the stage is set for trouble and the trained observer may possibly predict the outcome fairly accurately," he said. "Something can be done about it, and that in time to bring the more happy results for which the plant is being operated."

Frequent inspection of equipment, articularly that of the pipe through which sulfuric acid is introduced, is f utmost importance, he said. He uggested an every-day inspection of istributor pipes, since corrosion and brasion change very rapidly the disribution pattern of such pipes. Acually, these pipes are metering manifolds, he said, and must meet quite xacting requirements. "They should emain as originally designed to be ffective," he said.

Mr. Perrine showed the group a ection of pipe in which the tiny oles for distribution had been comletely eroded away until a single pening several inches in length was llowing great quantities of acid to e dumped into the mixer. The ecoomic loss involved in such an operaion is prohibitive, the speaker said, ut beyond that, the danger from fire r explosion is even more serious.

"The loss of plant food through oor distribution and poor mixing of ngredients may reach a unit of nitroen per ton of fertilizer," he told the afety men present. "Add to this the ost of the extra acid that usually ccompanies these cases, and the toal cost can readily reach one dollar o the ton of fertilizer, and is sometimes higher."

The physical condition of equipment, however, is not the only consideration, Mr. Perrine said. Some fires have occurred in the conventional continuous ammoniator when all equipment has passed careful inspection, he reported. In these cases, it was found that the mass had been permitted to reach such a physical condition that it simply rocked as one inert mass in the mixer instead of being broken up. Thus, even though all of the ingredients of the formula were present and the equipment was of good design and in good condition, the mixing ability of the machine was handicapped.

"Most continuous mixers, particularly those that are equipped with a good interlocking system and where the dry ingredients are reasonably well pre-mixed, can handle the problems of high analysis fertilizer manufacturing efficiently and with reasonable safety. The same is true with most rotary batch mixing installations that are well maintained and operated with skill," he added.

Summarizing, Mr. Perrine said that the requirements are generally that all ingredients, liquid and dry, be uniformly mixed throughout the entire mass, the acid and ammoniating medium particularly being so delivered that they are mixing uniformly as they enter the mass. "These are also good operating techniques in general," he concluded.

Speaking on problems involved in getting safety programs under way in South America, A. B. Pettit, director of safety and health for W. R. Grace & Co. outlined to the group some of his experiences in this connection. He said that progress is being made, though slowly, and displayed a number of safety posters which he said are helpful in getting across the idea of working safely.

Having lived for generations without the disciplines now necessary in operating modern machines, natives of countries in Latin America experience a more difficult time in learning to cope with power-driven equipment, Mr. Pettit explained. Philosophies regarding accidents and injuries of workmen are different than those held in the United States, he observed, and the safety movement as such is developing slowly as a consequence.

Mr. Pettit told the safety group that any help extended from the U.S. will be helpful in establishing safe operating conditions in Latin America. "We can't expect to change habits and customs in a hurry," he said, "particularly when they have been centuries in the making." However, with the coming of new industries and modern equipment in these countries, the concept of safety must be put across, he added.

In recognition of their services as former chairmen of the fertilizer safety section, two honorary plaques were awarded to Vernon S. Gornto and E. O. Burroughs, F. S. Royster Guano Co., Norfolk, Va.

Mr. Gornto's plaque was given not only in observance of his past-chairmanship, but also to wish him well in his retirement from Smith-Douglass Co., Norfolk, Va. Mr. Burroughs, as immediate past chairman, was given a plaque for his service in that capacity.

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

Soil Bank Flop May Still Pay Dividends

Education, one of the prime functions of the industry in getting the farmer to see the value of using fertilizers and pesticidal materials, has received a sizeable boost from the soil bank experience of the past season. Although this government plan fell flat on its face so far as successfully reducing crop surpluses was concerned, the soil bank did serve admirably as a vast demonstration program to illustrate to thousands of farmers that the application of fertilizers actually pays off.

This lesson is one which many of the soil bank farmers will long remember. It is the type of knowledge difficult to transmit until the grower himself has had an opportunity to try out fertilizing on his own fields under his own conditions.

Therefore, the soil bank should not be called a total flop when this is taken into consideration. True, with several billion dollars involved in the governmental program, the lessons come pretty high, but the industry stands to benefit over a number of years from this effort.

Whatever governmental program may be devised for next year, the industry must not let down on its educational efforts. In the long pull, the growers are going to need all of the know-how they can get . . . and the use of plant foods and pesticides is of prime importance.

Added Population Offers Challenge to Research

"This nation will have 60-million more people by 1975, an increase greater than the total cumulative population in the first 100 years of our history as an independent nation. These prospects present challenges to all of us, and especially to those in research. Improved medical care will greatly extend the human life span, and, because of abnormally low birth rates during the depression, fewer people are now reaching working age.

Thus, while the national population will increase by 30% in the next 20 years, our total labor resources will increase only 15%. In order simply to maintain today's living standards, we must find ways to enable each worker to produce more goods per hour of labor.

"Research is one of the prime ways to meet these challenges. A recent survey predicts a 20% increase in research activity next year, bringing us to a new national level of research expenditures of $7½-billion. Research grows more rapidly each year, and annual expenditures are now 100 times more than they were 20 years ago. The increase is about 15% per year, while the Gross National Product rises only 3% annually.

"Ten per cent of the anticipated national sales volume in 1960 will be in new products—things that are not in existence today. In the growth industries, like chemistry, 20% of 1960's sales are expected to be in new products."—Dr. Charles M. Kimball, president, Midwest Research Institute, Kansas City, at ceremony dedicating Spencer Chemical Co. research laboratory.

"Package Program" Brings Good Sales Results

The technique of presenting production practices as a "package" program is reported to be paying off in the case of cotton in Louisiana. H. C. Sanders, director of an extension effort along this line is doing a job that various recommendations, given separately, have sometimes failed to accomplish.

In a recent address before the Beltwide Cotton Mechanization Conference at Shreveport, Mr. Sanders emphasized that the many factors influencing the economical production of cotton must be considered together, and that "package" recommendations have been drawn up for each section of the state. These recommendations include considerations such as varieties of seed, fertilizer application, planting dates, seedbed preparation, pest control, harvesting and marketing procedures.

Mr. Sanders said that the use of plant food has more than doubled, farmers are using better seed, they are utilizing more and better equipment and the use of chemicals for weed and pest control has increased significantly. Also, the average production of lint cotton an acre has increased approximately 40% in the past six years. He added, however, that there is still a great need for further increased production efficiency.

Mr. Sanders concluded, "We need the stimulus which can come from an economy producing 20 million bales of cotton on farms that are permanently productive, prosperous and free. We need to face squarely every problem that may prevent the accomplishment of such a worthwhile objective."

Love That Land!

Governor Theodore R. McKeldin, of Maryland, in proclaiming that state's "Land Week," urged the interest and participation of his people in the observance and its activities. The text of his proclamation gives out with some points that could well be kept in mind by all, particularly in these days when some feel that crop surpluses have made it less valuable.

In recognizing the importance of productive land in the development of America and pointing out the need for continued conservation efforts, the Governor said:

"Man has loved his land and respected the land about him since the dawn of civilization.

"Because of the land's good gifts, America's earliest settler survived the hardships of a new, untamed world.

"Now, as in the intervening years, the roots of our growing strength are deep in the good earth.

"The health of our people comes from the products of the land. Millions in less fortunate nations survive because of the largesse of American soil.

"The prosperity and welfare of urban dwellers as well as rural are extensively dependent on the land and its resources.

"We must be wise in the use of this greatest resource and those related to it.

"Maryland is proud of its fertile land and of the accomplishments of such agencies as those in our Soil Conservation Districts.

"Our progress must be continued. We must halt the destruction of land which still goes on as a result of abuse, misuse, erosion and lack of proper drainage."

Quote

"In our opinion we do not think drouth should be the factor limiting fertilizer use. No one can predict the intensity or the length of a drouth or when it may occur. Therefore, a farmer should not attempt to buy fertilizer in respect to what he may anticipate the climatic conditions may be. A possible exception to this would be in the area of summer fallow where they have deep soils and rely upon stored moisture. Moisture cannot be substituted for fertility, nor can fertility be substituted for moisture. Nevertheless, if the soil is deficient in either, then that should be added if at all possible. A failure to supply adequate fertilization will result in a poor yield during those years when moisture conditions are adequate."—**J. W. Fitts, head, Department of Soils, North Carolina State College, at New Jersey Fertilizer Conference.**

Croplife's Home Office

Croplife

BPA — *Member of Business Publications Audit*

NBP — *Member of National Business Publications*

CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

LAWRENCE A. LONG
Editor

DONALD NETH
Managing Editor

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EXECUTIVE AND EDITORIAL OFFICES — 2501 Wayzata Blvd., Minneapolis, Minn. Tel. Federal 2-0575. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D.C. (WA 82).

Published by
THE MILLER PUBLISHING CO.
2501 Wayzata Blvd., Minneapolis, Minn.
(Address Mail to P. O. Box 67, Minneapolis 1, Minn.)

Associated Publications—THE NORTHWESTERN MILLER. THE AMERICAN BAKER. FEEDSTUFFS. MILLING PRODUCTION

MEETING MEMOS

1958

Jan. 13-14—National Cotton Council of America, twentieth annual meeting, Westward Ho Hotel, Phoenix, Ariz.

Jan. 22—Oregon Fertilizer Dealers Day, Oregon State College, Corvallis, Ore.

Jan. 23-24—Illinois Custom Spray Operators School, University of Illinois, Urbana, Ill.

Jan. 30-31—Colorado Agricultural Chemicals Assn., Annual Meeting, Cosmopolitan Hotel, Denver.

June 9-11—Association of Southern Feed & Fertilizer Control Officials, Heart of Atlanta Motel, Atlanta, Ga., Bruce Poundstone, University of Kentucky, Lexington, Ky., Secretary-Treasurer.

EDITOR'S NOTE — The listings above are appearing in this column for the first time this week.

Nov. 6-8—Fertilizer Industry Round Table, Sheraton Park Hotel, Washington, D.C.

Nov. 7-8—Mississippi Fertilizer Convention, Edgewater, Miss.

Nov. 12-13—Thirteenth Annual Wyoming Weed and Pest Control Conference, Cody Auditorium, Cody, Wyo.

Nov. 13-15—National Aviation Trades Assn., Annual Convention, Hotel Adolphus, Dallas, Texas.

Nov. 14-15 — Sixth Annual Oregon Weed Conference, Withycombe Hall, Oregon State College, Corvallis, Ore., Rex Warren, Corvallis, Ore., Secretary.

Nov. 17-19—National Fertilizer Solutions Assn., Annual Convention, Netherland-Hilton Hotel, Cincinnati, Muriel F. Collie, 2217 Tribune Tower, Chicago 11, Ill.

Nov. 18-20—Carolinas-Virginia Pesticide Formulators Assn., Carolina Hotel, Pinehurst, N.C. W. R. Peele, 516 S. Salisbury, Raleigh, N.C., secretary.

Nov. 18-22—International Conference on Citrus Virus Diseases, University of California, Riverside Campus.

Nov. 18-22—American Society of Agronomy, Annual Meeting, Atlanta Biltmore Hotel, Atlanta, Ga.

Nov. 20—Annual Rutgers Pesticide Conference, University Commons, New Brunswick, N.J.

Nov. 20-21—Ohio Pesticide Institute, Annual Winter Meeting, Neil House, Columbus, Ohio, J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Ohio, Secretary.

Nov. 21—New Jersey Entomological Society, Fall Meeting, New Brunswick, N.J.

Nov. 21-22—Seventh Annual Arkansas Fertilizer School, Marion Hotel, Little Rock, Ark.

Nov. 25—Oklahoma Fertilizer Dealers Conference, Oklahoma State University, Stillwater, Okla.

Nov. 25-26—Entomological Society of America, Eastern Branch Meeting, Commodore Hotel, New York, B. F. Driggers, New Jersey Agricultural Experiment Station, New Brunswick, N.J., Branch Secretary.

Nov. 26—Oklahoma Soils and Crops Conference, Oklahoma State University, Stillwater, Okla.

Nov. 26 — Manufacturing Chemists Assn., 7th Semi-Annual Meeting and Winter Conference, Hotel Statler, New York.

Dec. 1-3—Southern Seedsmen's Assn., Jung Hotel, New Orleans.

Dec. 2-3—Plant Food Producers of Eastern Canada, Seaway Hotel, Toronto, Canada.

Dec. 2-5—Entomological Society of America, 5th Annual Meeting, Hotel Peabody, Memphis, Tenn., R. H. Nelson, 1530 P St., N.W., Washington 5, D.C., Executive Secretary.

Dec. 2-5—Cotton States Branch, Entomological Society of America, 32nd Annual Meeting, Hotel Peabody, Memphis, Tenn., M. E. Merkl, Box 202, Leland, Miss., Secretary-Treasurer.

Dec. 2-6—Exposition of Chemical Industries, New York Coliseum.

Dec. 3-4—Iowa State College Fertilizer Manufacturer's Conference and Fertilizer Dealers' Short Course, Memorial Union, Iowa State College campus, Ames, Ia.

Dec. 4-5—Twelfth Annual Hybrid Corn Industry-Research Conference, La Salle Hotel, Chicago, Ill.

Dec. 4-6—Soil Science Society of Florida, Annual Meeting, Fertilizer Symposium on Dec. 5, University of Florida, Gainesville.

Dec. 5—Second Annual New Mexico Irrigation Exposition, Eastern New Mexico Fairgrounds, Roswell, N.M.; Al W. Woodburn and William Harr, c/o Southwest Public Service Co., Roswell, co-chairmen.

Dec. 6—Eighth Annual Fertilizer Dealers Short Course, South Dakota State College, Brookings, S.D.

Dec. 8-12—Vegetable Growers Association of America convention, Jung Hotel, New Orleans, La.

Dec. 9—Soils and Fertilizer Short Course, St. Paul Campus, University of Minnesota.

Dec. 9-12—Chemical Specialties Manufacturers Assn., Hollywood Beach Hotel, Hollywood, Fla.

Dec. 10-12 — North Central Weed Control Conference, 14th Annual Meeting, Hotel Savory, Des Moines, Iowa. Lyle A. Derscheid, agronomy department, South Dakota State College, Brookings, Program Chairman.

Dec. 11-13 — Agricultural Ammonia Institute, Seventh Annual Meeting, Hotel Marion, Little Rock, Ark., Jack F. Criswell, Claridge Hotel, Memphis, Executive Vice President.

Dec. 12-13—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Tenn.

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Jan. 13-15, 1958—Weed Society of America and Southern Weed Conference, joint meeting, Peabody Hotel, Memphis, Tenn.

Jan. 14-15—Georgia Plant Food Educational Society, Annual Meeting, University of Georgia, Athens, Ga., Fielding Reed, 710 Mortgage Guarantee Bldg., Atlanta, Ga., Secretary-Treasurer.

Jan. 14-16—Nebraska Fertilizer, Machinery and Chemical Exposition, Sponsored by the Nebraska Fertilizer Institute with the Nebraska College of Agriculture, Pershing Auditorium, Lincoln, Neb.

Jan. 20-21—Pest-O-Rama, sponsored by the Alabama Association for Control of Economic Pests, Coliseum, Montgomery, Ala., W. G. Eden, P.O. Box 626, Montgomery, Ala., Secretary-Treasurer.

Jan. 21-22—North Carolina Pesticide School, College Union Bldg., North Carolina State College, Raleigh.

Jan. 21-23—California Weed Conference, San Jose, Cal.

Feb. 4-6—North Carolina Pest Control Operators' Short Course, College Union, Raleigh, N.C. Clyde F. Smith, Dept. of Entomology, N.C. State College, secretary.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

Feb. 20-22—Nitrogen Conference, University of Minnesota, St. Paul. M. W. Mawhinney, Smith-Douglass Co., Albert Lea, Minn., Chairman.

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All Want Ads cash with order.

SITUATIONS WANTED

MAN, MATURE — ADMINISTRATIVE EXperience sales, order, traffic, accounting, fertilizer raw materials, mixed fertilizer. Willing to relocate. Address Ad No. 3203, Croplife, Minneapolis 1, Minn.

EXPERIENCED BUYER—SALES MANAGer specialty fertilizers, lawn seed, insecticides. 7½ years with fertilizer manufacturer. 8 years distributor sales manager. Technical knowledge Turf-Do Sales Promotion, advertising, introducing new products to market. Address Ad No. 3154, Croplife 1, Minn.

BUSINESS OPPORTUNITIES

FOR SALE — FERTILIZER EQUIPMENT and tornado-damaged fertilizer plant at Fargo, N. D. Building has vertical columns, foundation, bin cribbing, warehouse dock. Equipment consists of drying, cooling and pelletizing drums, fans, dust collectors, Stedman mixer, I and C bagger, hopper system, and scales, flowrators, bucket elevators, Keystone 150 H.P. boiler, two Tyler screens, one Link Belt vibrating screen, two payloaders, Yale forklift and pallets. Acid and fuel oil tanks, several miscellaneous conveyors, 50 totally enclosed motors up to 40 H.P. Contact Ted B. Schultz, Assistant General Manager, Peavey Elevators, 809 Grain Exchange, Minneapolis 15, Minn.

DOW EARNINGS

MIDLAND, MICH. — The Dow Chemical Co. has reported earnings before taxes of $28,577,287 for the first quarter ended Aug. 31, an increase of 35% over the figure for the same period in 1956. Sales increased 2% to $166,302,267 from $162,424,174. First quarter net earnings increased to $14,137,911 as compared with $11,750,666 in the previous year. Taxes rose to $14,439,376 from the $9,338,389 reported in the first quarter of 1956.

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EXPERIENCED BUYER—SALES MANAGer specialty fertilizers, lawn seed, insecticides. 7½ years with fertilizer manufacturer. 8 years distributor sales manager. Technical knowledge Turf-Do Sales Promotion, advertising, introducing new products to market. Address Ad No. 3154, Croplife 1, Minn.

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PUBLISHED EVERY MONDAY

A WEEKLY NEWSPAPER FOR THE TWO BILLION DOLLAR AGRICULTURAL CHEMICAL INDUSTRY

AUGUST 23, 1954

Vol. 1 — No. 31

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Impact of Farm Law on Industry Hinges on Diverted Acre Policy

Fall Fertilization, Need for Balanced Fertility Stressed at Wisconsin Ammonia Meeting

Single-Picker Cotbelts Acid Unit Steps Up

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Minnesota Armyworm Campaign Saves $40 Million

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- **Farm Advisor Group—county agents, agriculture department officials, extension and experiment station personnel, soil conservation men, bankers and consultants**

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